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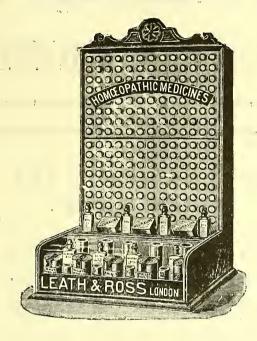
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No charge is made to advertisers for the insertion of their names under appropriate headings, and if our readers cannot find what they want in either of these indices a postcard inquiry to "The Chemist & Druggist," 42 Cannon Street, London, E.C., will be promptly attended to.

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JANUARY 30, 1909

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Parke, Davis & Co.
Wetmore, S. H., Co.
Surgical Appliances
Allen & Hanburys, Ltd.
Bailey, W. H., & Son
Burroughs Wellcome & Co.
Curling, G. Wyman, & Co.
Ingram, J. G., & Son
Mason Bros. & Chapman
Maw, S., Son & Sons
Offord Hygienio Truss Co.
Schutze, F., & Co.
Wood Vincent
Warne, W., & Co., Ltd.
Surgical Dressings
Baird Bros.
Beiersdorf, P., & Co.
Berliner, Arthur
Burroughs Wellcome & Co.
Curling, G. Wyman, & Co.
Dalmas, A. de St., & Co.
Galeu Mfg. Co., Ltd.
Gimber, W.
Haynes, G., & Co.
Leslies, Ltd.
Liverpool Lint Co.
Maofarlan, J. F., & Co.
Maw, S., Son & Sons
Newsome, C.
Robinson & Sons, Ltd.
Seabury & Johnson
Southall Bros. & Barolay
Vernon & Co., Ltd.
Wood, Vincent.
Woolley, J., Sons & Co., Ltd.

Woolley, J., Sons & Co., Ltd.

STARCH Mumford, G. S., & Sons

Mumford, G. S., & Sons
STOPPERS
Fletcher, Fletcher & Co.
Stipendum Stopper Co.
STOVES (HEAT-NG)
Clark, S., & Co.
SYNTHETIC PERFUMES
Boehringer, C. F., & Soehne
Bush, W. J., & Co., Ltd.
Chuit, Naef & Co.
Compagnie Morana
Murray, O., & Co., Ltd
SYNTHETIC REMEDIES
Boehringer, C. F., & Soehne
Hofman-La Roche, F., & Co.
Vnoll & Co.

Hofman-La Roche, F., & Co.

Vnoll & Co.

SYPHONS, S. W.
Aerators, Ltd.
Barnett & Foster
Breitt, E., & Co., Ltd.
Camwal, Ltd.
Idris & Co., Ltd.

SYRUPS, FRUIT
Idris & Co., Ltd.

SYRUPS, MEDICINAL
Chemists' Co-operative Wholesale
Fellows' Med. Mfg. Co.
Fletcher, Fletcher & Co.
Squire & Sons

TABLETS, COMPRESSED

Fletcher, Fletcher & Co.
Squire & Sons

TABLETS, COMPRESSED

Allen & Hauburys, Ltd.
Asche, C. F., & Co.
Bishop, Alfred, Ltd.
Cox, A. H., & Co., Ltd.
Davies, Sons & Co.
Duncan, Flockhart & Co.
Evans Sons Lescher & Webb
Hearon, Squire & Francis
Jackson, E. E.
Lloyd, T. Howard, & Co.
Martindale, W.
McKesson & Robbins
Parke, Davis & Co.
Pill, Tablet, & Capsule Alliance
Potter & Clarke
Southall Bros. & Barclay, Ltd.
Standard Tablet & Pill Co.
Thompson & Capper
Wand Mannfacturing Co.
Warner, W. R. (Newbery)

TABLOID PRODUCTS
Burroughs Wellcome & Co.
TARTARIC ACID
Boehringer, C. H., Sohn
Day Hill & Hodgkinsons

TEA
Geain, L., & Co.

Geuin, L., & Co.

Geuin, L., & Co.

Fin BOX MAKERS
Goodall, Backhonse & Co.
Huntley, Boorne & Stevens
Shirley Bros., Ltd.

Goodall, Backhonse & Co. Huntley, Boorne & Stevens Shirlev Bross., Ltd.

TOBACCO
Singleton & Cole, Ltd.
TOILET ARTICLES
Allen & Hanburys, Ltd.
Armour & Co., Ltd.
Auto-Strop Safety Razor Co.
Ayrton, Saunders & Co., Ltd.
Beetham, M., & Son
Berliner, Arthur
Blackie, R.
Boulton, J., & Co.
Breidenbach & Co.
Breidenbach & Co.
Breidenbach & Co.
Bronnley, H., & Co., Ltd.
Burgoyne, Burbidges & Co.
Burroughs Wellcome & Co.
Chesebrongh Mfg. Co.
Chesebrongh Mfg. Co.
Chok, E., & Co., Ltd.
Daggett & Ramsdell
Daisy, Ltd.
Edwards' Harlene Co.
Eucryl, Ltd.
Gibbs. D. & W., Ltd.
Haliflor Co.
Hall, Forster & Co.
Harker, Starg & Morgan
Hearon, Squire & Francis
Hovenden, R., & Sons, Ltd.
Lloyd, A., & Co.
Lloyd, A., & Co.
Lloyd, A., & Co.
Cloyd, A., & Co.
Cool, Ltd.
Newbery, F., & Sons, Ltd.
Odol Chemical Works
Papier Poudré, Ltd.
Parke, Davis & Co.
Quelch, H. C., & Co.
Richards, J. M., & Sons, Ltd.
Rowland, A., & Sons
Sangers'
Sanitas Co., Ltd.
Ständard Tablet, Davis & Co.

Sangers'
Sanitas Co., Ltd.
Shirley Bros., Ltd.
Standard Tablet & Pill Co.
To-Kalou Mnfg. Co.
Toogood, W., Ltd.
Woolley, J., Sous & Co., Ltd.
TOOTH STOPPING Stevens, P. A.

TOILET PAPER
Ford, Shapland & Co.
Newbery, F., & Sons, Ltd.
Townsend. J., & Sons

TRADE-MARKS AGENTS
Barker, R. W.
Ford. Shapland & Co.
TRUSSES
Bailey, W. H., & Son
Haywood, J. H.
Offord Hygienic Truss Co.
Wood, Vincent
Woolley J. Sons & Co. Lt.

Woodley, J., Sons & Co., Ltd.

TUBED SPECIALITIES
Christy, T., & Co.
Sangers'

TUBES, COLLAPSIBLE Brooks, Peel & Co.

VACCINES

Allen & Hanburys, Ltd.

Evans Sons Lescher & Webb

VALUERS

VALUERS
Alexander, H. P.
Baker, P. C.
Berdoe & Fish
Brett & Co.
Jackson & Co.
Orridge & Co.
Tombinson, T., & Son
VASELINE
Chesebrough Mfg. Co.
VERMIN-KILLERS
Danysz Virns, Ltd.
Evans Sons Lescher & Webb, Ltd.
Farmer, F., & Co.
Harker, Stagg & Morgan
Kay Bros., Ltd.
Sanford & Son
VETERINARY MEDICINES

Kay Bros., Ltd.
Sanford & Son
VETERINARY MEDICINES
Askham, John
Chesebrough Mfg. Co.
Day, Son & Hewitt
Edwards, W., & Son
Elliman, Sons & Co.
Harvey & Co., Ltd.
Lloyd, T. H., & Co.
Spratt's Patent, Ltd.
Tomlinson & Hayward, Ltd.
Walker, Troke & Co.
Wand Mfg. Co.
Wilson Vet. Mnfg. Co.
VINEGAR
Grimble & Co.
WATER GLASS
Tomlinson & Hayward, Ltd.
WATERS, CONCENTRATED
Chemists' Co-operative Wholesals
Robinson, B., & Co., Ltd.
Spurway et Cie.
WAXES
Fink, F., & Co.

WAXES Fink. F., & Co. WEED-KILLERS

WEED-KILLERS
Aome Chemical Co., Ltd.
Burt, Boulton & Haywood
Tomlinson & Hayward
WHOLESALE DRUGGISTS
Allen & Hanburys. Ltd.
Alliance Drug & Chem. Co.
Baiss Bros. & Stevenson, Ltd.
Bell, John, & Co.
Blackie, R.
British Drug Houses, Ltd.
Burgoyne, Burbidges & Co. British Brigg Holses, & Co. Burroughs Wellcome & Co. Chemists' Co-op, Wholesale Curling, G. Wyman, & Co. Davy Hill & Hodgkinsons Evans Sons Lescher & Webb Evaus Sons Lescher & Webb Ferris & Co. Gondall, Backhouse & Co. Harker, Stagg & Morgan Hearon, Squire & Fraucis Hewlett, C. J., & Son Leuuon, Ltd. Lloyd, T. Howard, & Co. Lofthouse & Saltmer Murdoch, John, & Co. Oldfield, Pattinson & Co. Potter & Clarke Raimes & Co. Sankyo & Co. Sankyo & Co. Sonthall Bros. & Barclay Warner, W. R. (Newbery) Willows, Francis B. & T. Woolley, J., Sous & Co. Woolleys, Ltd. Wright, Layman & Umney Wines.

Wright, Layman & Umney
WINES
Bnrrough, J., Ltd.
Millar, A., & Co., Ltd.
Robinsou, B., & Co., Ltd.
WINES, MEDICATED
Burrough, J., Ltd.
Coleman & Co., Ltd.
Fletcher, Fletcher & Co., Ltd.
WORM CAKES
COX, A. H., & Co., Ltd.
ZINC OXIDE
Baiss Bros. & Stevenson
Hubbuck, T., & Son, Ltd.





Galenicals

Pharmaceutical Chemicals

A Record of Progress. during 167 Years.

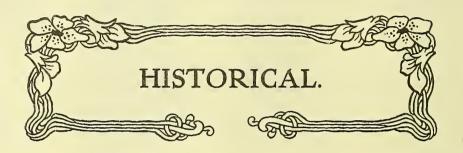


Burgoyne, Burbidges & Co.

Coleman Street, London, E.C. and East Ham, E.







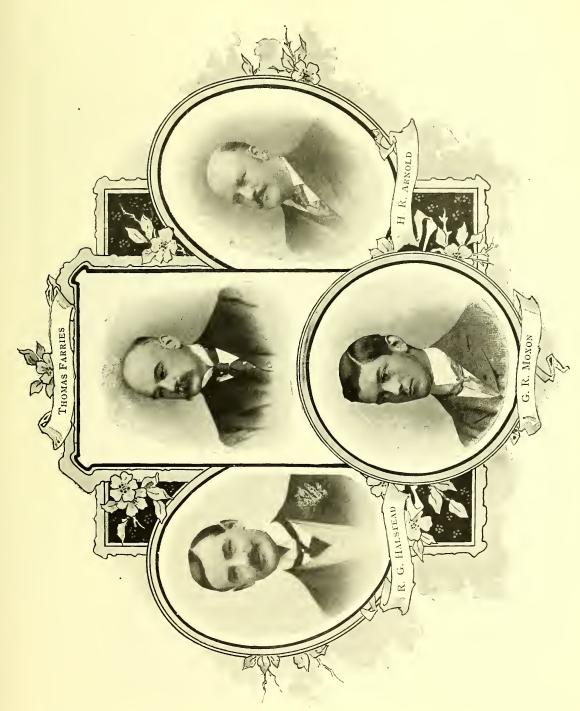
HE keynote of progress in any business undertaking is foresight. The faculty of gauging accurately the lines on which development is likely to proceed, and a readiness to prepare for, and to take advantage of, every opportunity as it occurs are the attributes of success.

A Process of Evolution.

Thus the far-seeing wholesale druggist is not content to remain a vendor of crude drugs, but becomes as well a manufacturer of the galenicals, of the pharmaceutical specialities, and of the chemicals which he sells to the retailer.

In very few cases even now, however, has the higher development been reached, but in the succeeding pages an account is presented of how this high-water mark has been attained, along with the illustrated proofs of its attainment. This record sets forth in plain language and by means of photographic reproductions the story of the progress of a world-known English drug house from its birth in 1741 up to the present day.

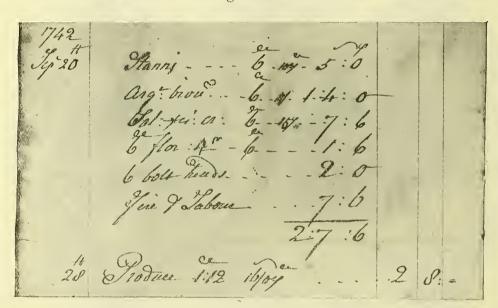
The aim is to prove to chemists the world over that Burgoyne, Burbidges & Co. are not merely wholesale dealers in drugs, galenicals, and chemicals, but that they manufacture first hand on the most scientific lines and on the largest scale, and that they possess unequalled facilities for manufacture and for supply.



Present Partners of Burgoyne, Burbidges & Co.

HISTORICAL

In the early part of the eighteenth century—1741 to be exact—the business of Burgoyne, Burbidges & Co. was founded. Pharmacists will note with interest that one of the pioneers of the firm was Richard Hotham Pigeon, a founder of the Pharmaceutical Society, and the Society's Treasurer from 1841 to 1851. Mr. Pigeon was also connected with



FACSIMILE OF FORMULA FROM BURGOYNE'S OLDEST LABORATORY BOOK.

Christ's Hospital for many years, being Treasurer of that institution for some time. In the firm's private office there hangs over the fire-place an excellent engraving from the original oil-painting of Mr. Pigeon at Bloomsbury Square. Other interesting records of the past, still carefully preserved, are the laboratory books of the firm. A formula from one of these dated 1742 is

HISTORICAL

reproduced in facsimile (page 12), and it demonstrates the difference between the manufacturing methods of 1742 and of to-day.

The advent of Thomas and Frederick Burbidge marked an era in the development of the firm in many ways. two brothers were men of energy and discrimination, and the business progressed rapidly under their Original administration. Mr. Frederick Burbidge, Ideas. besides being an acute business man, was one of the most famous cricketers of his day, and played for Surrey and England for many years. The initiative and originality of the brothers were conspicuous; thus soon after their admission to the firm they began to publish a monthly list of drugs, surgical instruments, druggists' sundries, and proprietaries. Similar lists are now a regular production of almost every wholesale house in the country, but this was the first of its kind. The brothers were the first also to send abroad special travellers to represent the firm in all parts of the world. This was a thing unheard of in those days, and the expense and risk were much greater than in these modern times.

The business developed rapidly, particularly on the scientific side, on the admission of Dr. W. S. Squire as a partner. Dr. Squire, who was a pupil of Liebig's, became, as most pharmacists know, the leading English expert authority on the spirit industry, besides being a chemist of all-round ability with a special aptitude for chemical engineering. Under his direction Burgoyne's laboratory was re-organised and the latest scientific methods and appliances were introduced. To him, as assistant, went Mr. Thomas Farries, who is a pharmaceutical chemist, as well as a Fellow of the Institute of Chemistry and of the Chemical Society. In

HISTORICAL

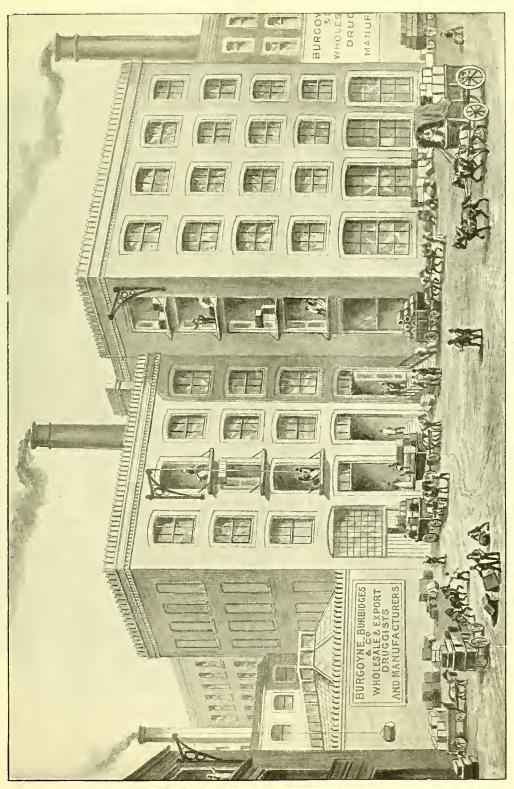
1876 Mr. Farries and Mr. Cyriax were admitted partners. Dr. Squire had by that time left the firm, but the laboratory operations under Mr. Farries have always been kept thoroughly up-to-date. His experience of pharmacy and its needs, combined with his qualifications in the higher branches of chemistry, has enabled Mr. Farries to keep the business abreast of modern scientific requirements. His aim has always been to live up to the reputation that "Burgoyne's" is a guarantee of accuracy in manufacture and purity in the finished product.

The successive deaths of Mr. Thomas Burbidge, Mr. Frederick Burbidge and Mr. Cyriax, left Mr. Farries some years ago sole proprietor of the business. Shortly afterwards Mr. H. R. Arnold, Mr. Chas. S. Webb and Mr. Gerald R. Moxon were made partners. Each of these gentlemen had been associated with the business some years previously and all knew the drug trade thoroughly.

In 1900 Mr. Webb died, and since Mr. R. G. Halstead has been admitted to the partnership. The portraits of the Principals on page 11 will interest many readers.

COLEMAN STREET.

The heart of the business is at 12 Coleman Street, in the City of London. There are the administrative offices situated. On the ground floor of No. 12 are the main office (page 17), the firm's private office, as well as various subsidiary departments requisite for the purposes of the administration. The building is in fact the place to which all branches of the enterprise are controlled.



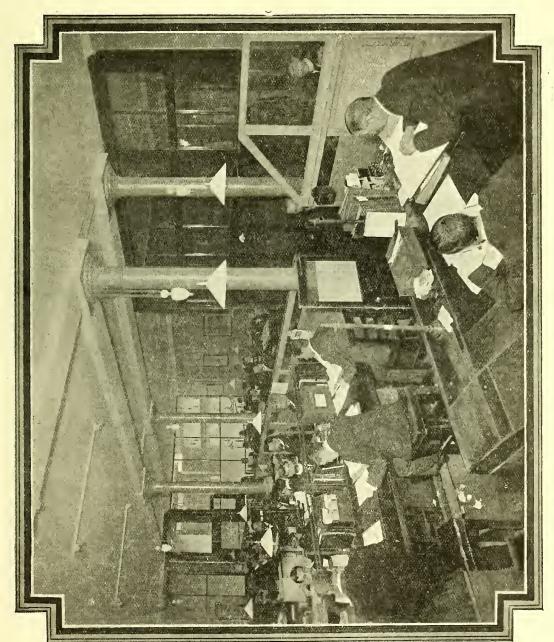
Warehouses at Coleman Street, London, E.C.

The adjoining warehouses at 16 Coleman Street and Whitehorse Yard are all connected, and give evidence of having been acquired as the warehousing business expanded. These occupy a large area in the heart of the City, and every inch of room inside, as well as part of the flat roof outside, is occupied.

Bearing in mind that within the past year these premises have been relieved of work now done on four acres of ground at East Ham, the thing that strikes the casual visitor most in a tour of the premises, is the trouble there must hitherto have been in doing so enormous a volume of business in cramped surroundings—space in the centre of London being Looked at now, it seems almost incredible that so much manufacturing could have been done in space which now seems sufficiently occupied by men who handle an infinite variety of goods for dispatch. True, the firm's premises in Johnson Street, E., used as laboratories and bonded stores, gave initial relief to Coleman Street considerably, but that may be said to have demonstrated the necessity for complete devolution of the manufacturing processes from the administrative and trading organisation. The acquirement of the East Ham property has secured this, and now the Coleman Street buildings have been reconstructed internally on a plan of reorganisation which

The Old made New.

makes them eminently the best of the kind in the City of London for storage, packing, and dispatch of druggists' goods. What at one time was a laboratory in the basement is now an upto-date export packing department; near by are the bottle-washing rooms. The first floor, formerly devoted to stock of original packages, is now reserved for galenicals, with the exception of the Town Dispatch Department. As one



Glimpse of principal office at 12, Coleman Street, E.C.

proceeds with the inspection, evidence of reorganisation increases, also of adaptation to present conditions, as well as regard for expansion. A printing department is eloquent of the service which the firm extend to retailers in furnishing urgently wanted special preparations or out of the way chemicals, besides the more popular everyday demands in household remedies; for here the labels and other accessories are done. Adjoining is a locked room for liquid poisons—in charge of a qualified man. It is convenient to the "wet" department, where many packers are busy at work. Here one may see goods being collected for the Medical Department of the Army, Burgoyne, Burbidges & Co. holding the contract, and the distinctive manner of packing and finishing attracts the eye.

In succession we pass through sections of the premises devoted to "country packing," "general packing" and "mixed orders," the men working under conditions which facilitate work, eliminate error, and in abundance of light. Modern London is going underground, and we have proof of it in double cellars, one below the other, here devoted to mineral acids, oils, and other articles which are best and safest in cool places, while beneath all are vaults in which ethers and other volatile substances are safely kept.

"Dries,"
Sundries, and Chemicals.

"Dries,"
Sundries, and chemicals.

"Dries,"
Sundries, and chemical apparatus, in abundance and variety unusual. The other

part is occupied by the "dries," such as powders, etc.

The next flight brings us to the "chemical floor," where chemicals are stored, and here there is another specially locked room for "dry" poisons. Essential oils, perfumes,

soluble and fruit essences, and some tinctures are likewise stored in separate departments on this floor. The top floor is largely taken up with the storage of bottles and other packages, but these have overflown to the roof, where a galvanised iron shed has been erected to accommodate them.



RECEPTION ROOM. SURGICAL INSTRUMENT DEPARTMENT.

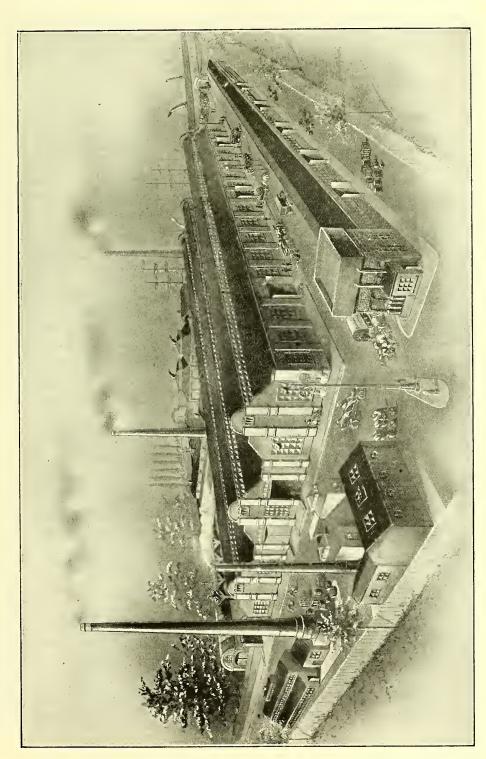
The view from the roof gives one an idea of the central position of Coleman Street in the Metropolis—St. Paul's, the Guildhall, the Mansion House, the Royal Exchange, and the Bank of England lie within a stone's throw of this centre of the drug trade.

In order to appreciate the extent of the premises which are thus hastily surveyed, it is necessary to bear the fact in mind that the warehouses comprise two buildings,

which seem one to the casual visitor—one of the buildings being leasehold to the firm and the other freehold. The administrative or office building is, as already stated, distinct from these, but so placed as to appear part of a whole. All three are constructed according to the London County Council's requirements, with fire-proof staircases from top to bottom, &c., while watchmen and firemen are on the premises day and night.

EAST HAM.

Some time ago a point in the firm's business growth was reached at which it was found impossible for them to keep pace with the increase without more room. Principals surveyed the open spaces still round London, and within easy reach of Coleman Street, as a site for a factory and storage base. They were fortunate in obtaining several acres of freehold ground at East Ham, and there they have erected one of the largest and best designed manufacturing laboratories in this country. It is contiguous to one of the principal docks of London, so that imported staples are easily received and export orders quickly dispatched, while the railway facilities are equally excellent. The new building (as shown in the illustration on opposite constructed on a simple but most effective page) is plan, and is in three divisions. Everything Broad is done on the ground floor (there are no upper Acres. stories), and the lighting from the roof is excellent. In these three buildings is arranged in perfect sequence the whole process of manufacturing from the crude product to the finished preparation. In this description an attempt is made to follow the procedure actually



Birds Eye View of East Ham Factory.

adopted. The illustrations in the following pages are of sections of various departments at the East Ham Works.

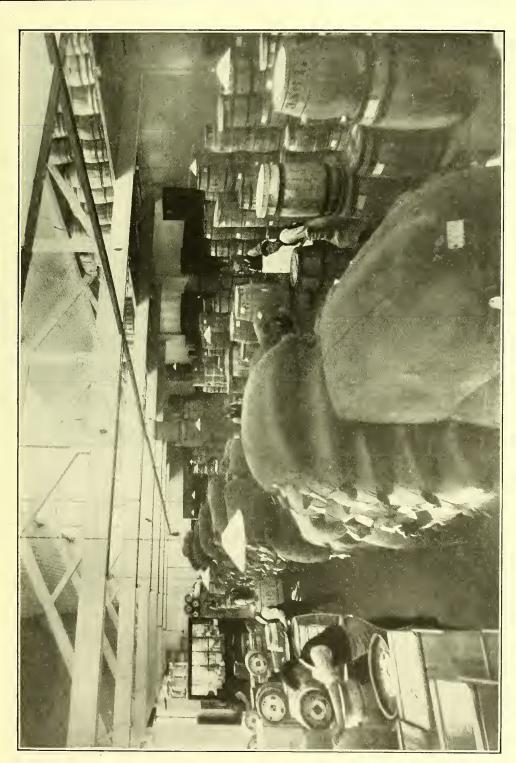
The first place one enters after passing through the handsome teak gates is the stock floor. There (see pp. 23

A Storehouse of Drugs.

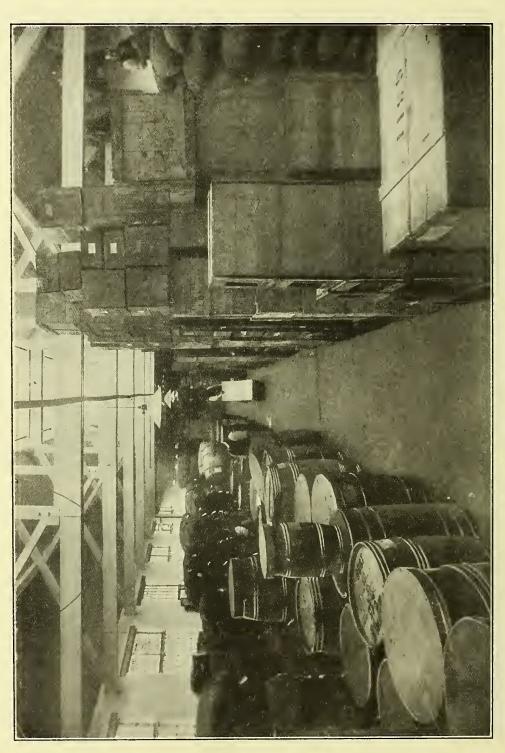
and 24) crude drugs and chemicals are stacked in original packages of all descriptions preparatory to being sent to be ground or otherwise manipulated.

Some idea of the extent of the business done is seen by the number of original packages of such things as sarsaparilla, calumba root, potassium bromide, and other products as diversified in character. Then come powdered or crushed goods from the mills, and at the further end of the division the mills themselves. The crushing and grinding mills have large granite edge-runners, each $6\frac{1}{2}$ ft. in diameter. Disintegrators, sifting apparatus, and all appurtenances for the comminution of drugs are also in use. The point of note in regard to this building is its exclusive use for crude materials—their storage, selection, and preparation for manufacturing processes. In this survey of the store-house we have reached the rear of the building, where we find a section partitioned off for washing and drying bottles, jars, and pots, the work being done under ideal conditions. A Sturtevant hot-air drying machine is an up-to-date mechanical innovation which is found to save time and prevent the delay and danger resulting from imperfectly-dried containers.

At this point we see at the rear of the main building a series of brick houses in which the power for the establishment is produced. The photograph on page 26 shows part of the steam engines and dynamo room, which supply light and power to the whole works.



Drug Storage: "A" Room.



Drug Storage: "C" Room.

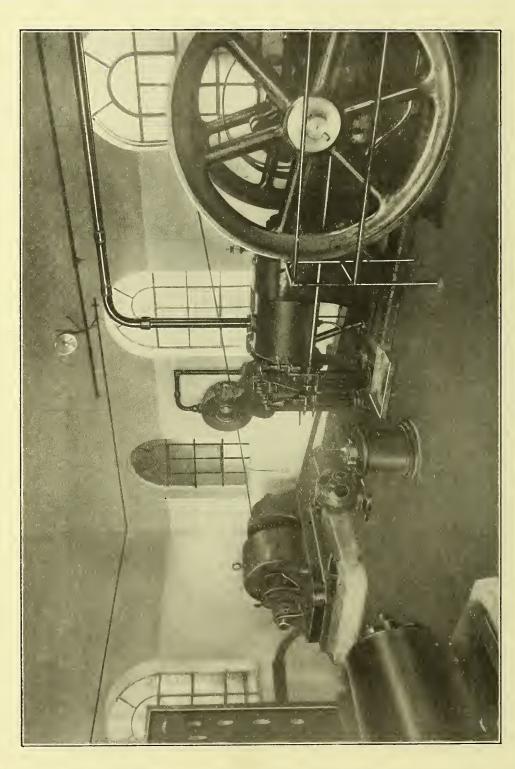
The central part of the triple main building is occupied with the manufacture of pharmaceutical preparations, and it is divided into a series of apartments, the first of which at the rear is devoted to all the operations that go to make compressed tablets, the latest machinery for the purpose having been installed. Then comes a department solely

Essences and Tinctures for Export.

devoted to the production of essences for export, and next a laboratory, 60 ft. by 40 ft., in which tinctures are manufactured and bottled for export. Burgoyne, Burbidges

& Co. are the pioneers in the exportation of tinctures. They established the business before "tincture drawback" was heard of, and since the introduction of that concession they have coped with the new conditions and perfected the processes of manufacture. This magnificent laboratory is eloquent of the result. Besides lines of percolators and other apparatus for the exhaustion of drugs, there is such accessory apparatus as two hydraulic presses, each 20 tons to the inch pressure, and elsewhere in the laboratories is a unique spirit-recovery apparatus. Row upon row of standards for the finished products (as illustrated on pages 27 and 28) sufficiently show the large scale upon which this branch of manufacture is conducted.

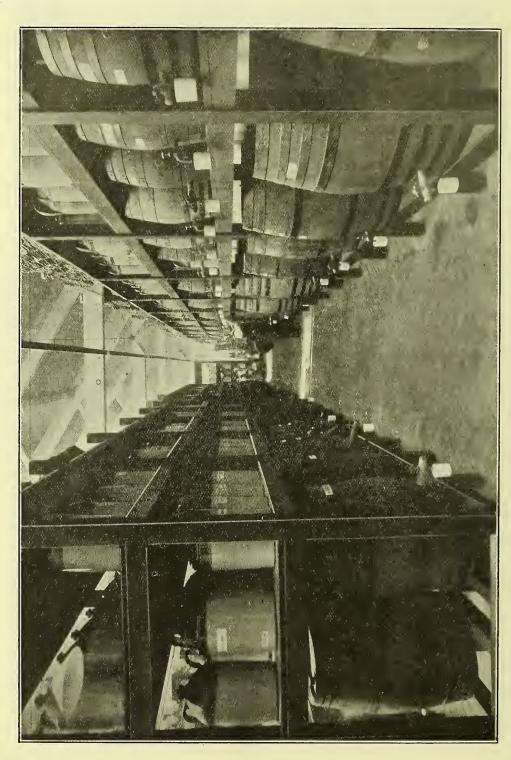
In the next division a busy scene—the export packing department—is pictured on page 31, in which is seen to the right the offices required by the Government to be provided for the Excise officers, who are on the spot all the hours of each working day of the year. This is another remarkable testimony to the extent of the firm's tincture export business; the circumstance is unique among British drug houses.



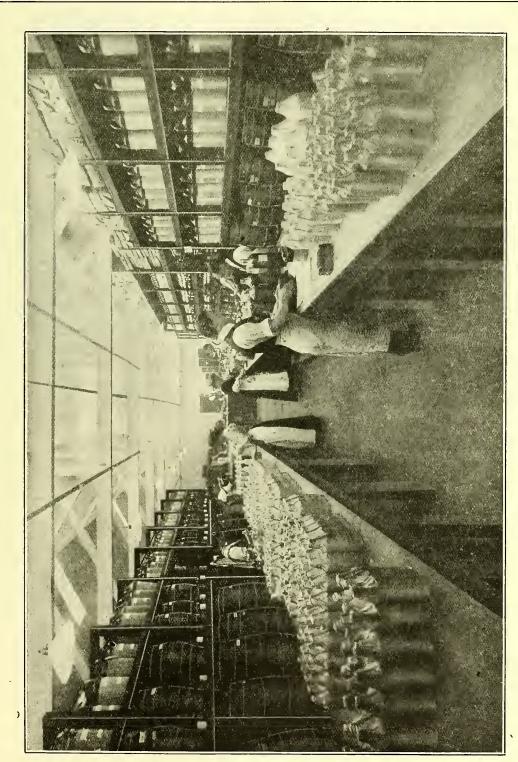
Part of Power House.



Tincture Room (Manufacturing).



A Gangway in the Tincture Room.



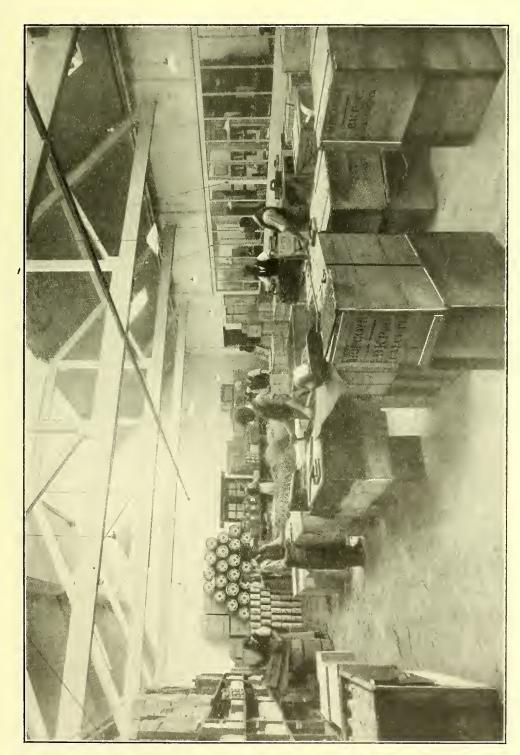
Tincture Room: Bottling and Finishing.

The final section of the central building is devoted to bottling and packing counter specialities. The photograph reproduced on page 32 shows part of it, where many employés are constantly engaged, their work being chiefly on preparations for export, everything medicinal and for the toilet that the public want from chemists being packed and labelled according to the language of the country for which they are destined. A Roberts' filling machine works from morning till night pouring the Cream Emulsion of Cod Liver Oil into bottles at the far end of the central table, and they work their way up to the complete stage through several hands. Of this Emulsion more anon.

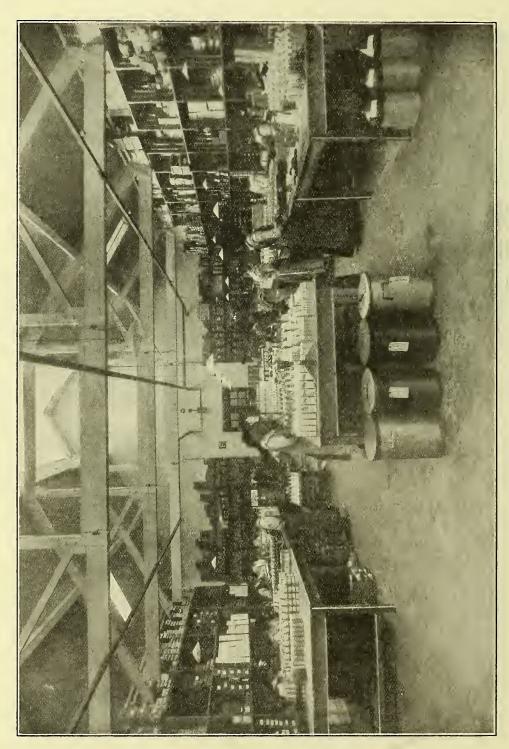
So far as we have traversed the laboratory buildings there has been no evidence of manufacturing processes in which steam is used for evaporation or heating purposes. These processes are entirely confined to the third division of the building, and are thus all under one roof.

The progressive nature of Burgoyne, Burbidges & Co.'s business is further demonstrated on entering this, for an experimental and research laboratory, figured on page 33, can be seen, where all crude drugs are tested before use,

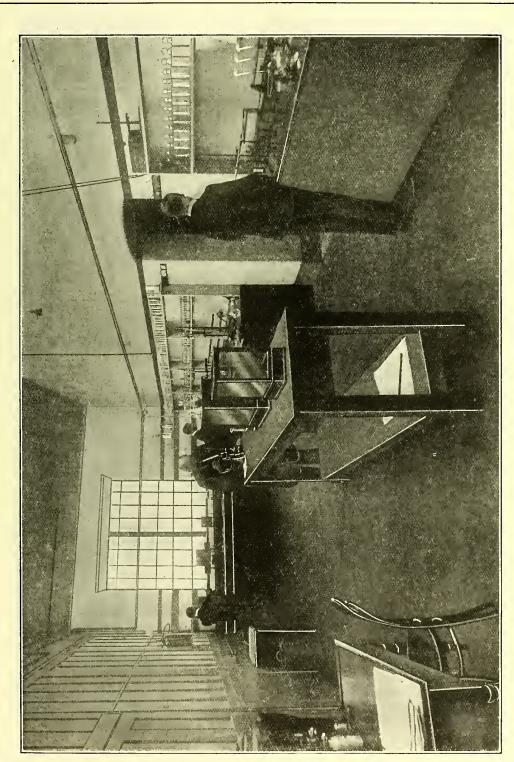
Chemicals Manufactured. analyses before being put into stock. The laboratory is under the supervision of an expert chemist, who is also manager of the manufacturing department. In this laboratory are several assistants with high scientific qualifications, who assay the galenicals and test the chemicals manufactured. From this laboratory we obtain a view of the chemical manufacturing department, the simplicity and perfection of the arrangement of which are obvious from the illustration on page 35. As some indication of the work being done there, one may see on



Export Packing and "Bond" Offices.



Packing Specialities and Proprietaries.



Analytical and Research Laboratory,

almost any day in actual course of manufacture such things as:—

Ammonium Benzoate
Ammonium Iodide
Ammonium Oxalate
Atropine Sulphate
Caffeine Citrate
Calcium Chloride
Calcium Chlor-hydrophosphate
Cocaine Salicylate

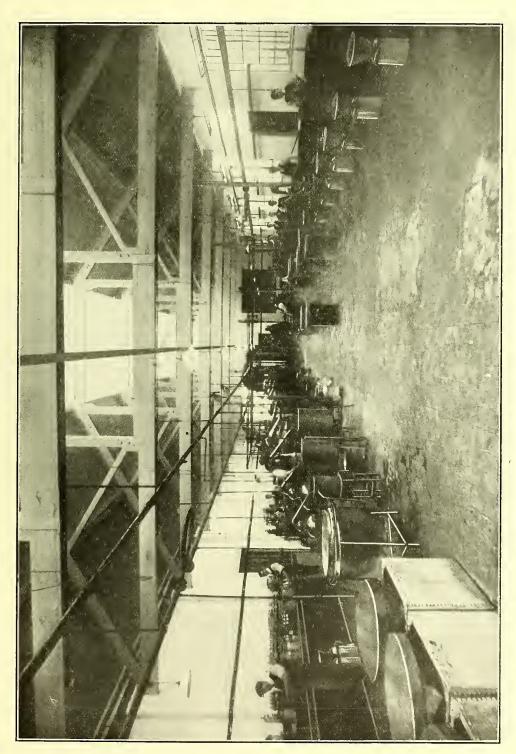
Copper Oleate Gynocardic Aeid Hydrobromic Acid Potassium Citrate Sodium Phosphate Sodium Stearate Uranium Nitrate Zinc Valerianate

These are merely examples of the medicinal and technical chemicals produced. The manufacture of synthetics, of such things as gingerin and capsicin, and the distillation of terpeneless oils, are other processes carried on in the laboratory.

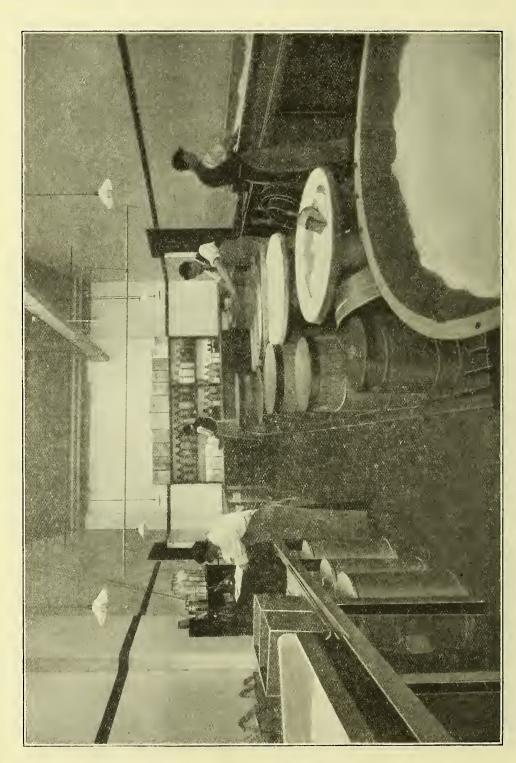
Since the time that Dr. Squire was a partner in the firm the "lines" which he established have been added to, and in respect to a number of chemicals the firm have a reputation all their own. In establishing the works at East Ham, one of the purposes which the firm have in view is to further extend the production of chemicals, both as to number and quantity, and they will be able, should any fiscal changes occur, to meet increased demand for British chemicals. The installation of plant comprises mechanical filter presses, centrifugal machines, and other modern requisites for expeditious finishing of chemical products after the crystallisation or other purification stages have been completed.

Granular Preparations.

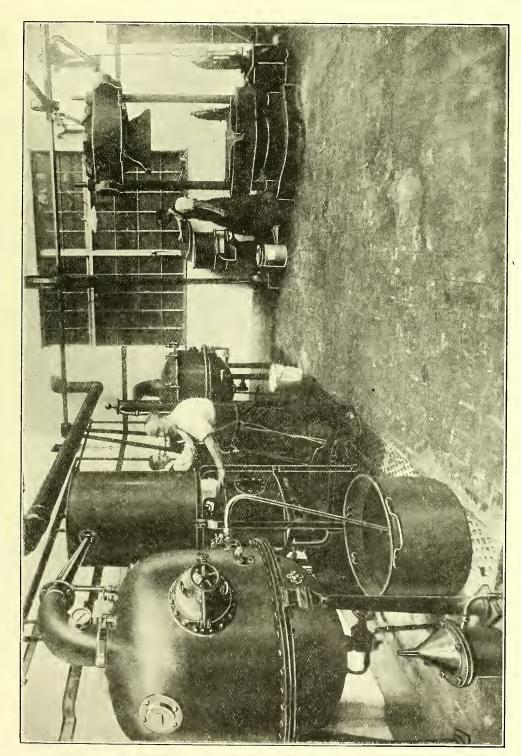
Associated with the main chemical laboratory for the tory are a drying room and laboratory for the manufacture of granular effervescent preparations, of which a glimpse is shown on page 36. In a room of equal size to this fluid extracts and similar preparations are made by percolation and repercolation, heat being as far as



Pharmaceutical and Chemical Laboratory.



Corner of Granulating Room.



Corner of Pharmaceutical Laboratory (Vacuum Stills).

EAST HAM

possible avoided in the production of those highly concentrated galenicals in which the active principles undergo ready changes. These sections of the building divide the chemical laboratory from the pharmaceutical laboratories,—an arrangement which in Burgoyne, Burbidges & Co.'s experience saves in labour and in economical production—

features which tell in securing the best Quality and quality and in meeting competition in the Competition. world's markets. The steam pans used go up to 350 gallons capacity. A battery of stills is placed here also, chiefly for drawing essential oils, and other apparatus in association with these is used for the production of soluble and fruit essences, in which the firm deal largely all over the world. The distillation of medicinal spirits (spt. aether, nit. spt. ammon. arom., &c.) is done in another department, and at the far end of the laboratory are the vacuum stills shown on page 37. The hydraulic press also seen in the picture gives a pressure of 100 tons to the square inch. This department contains Ointment Mills, and an ingenious mechanical device, consisting of combined vacuum pump, condenser and drying cupboard, which can also be used for the recovery of spirit from tincture marc.

Equally remarkable is the machinery for the manufacture of the firm's Cream Emulsion of Cod Liver Oil which is world-famed because of its perfection as an emulsion. The degree of perfection is that the machines take in emulsion at the stage where the retail man leaves off with his mortar and pestle or shaking, and it is forced through the minute apertures in the machine at a pressure of 2 tons to the square inch, which reduces the oil to particles much smaller than the fat globules of milk, each being enveloped



Part of Pharmaceutical Laboratory (Steam Pans).

EAST HAM

with a coating of emulsifier that prevents coalescence, and consequently separation. That is one of the reasons why the Emulsion is so good, but other essential factors go to the making of its popularity.

A cursory inspection of these laboratories makes it quite evident that the most modern manufacturing methods are in vogue. Steam-jacketed evaporating pans have replaced the old system of pans over naked fires or on gas-burners, and the apparatus employed is in each case of the latest pattern known to science. No expense has been spared in this regard, and the latest pharmaceutical machinery of the most up-to-date kind is used for each operation.

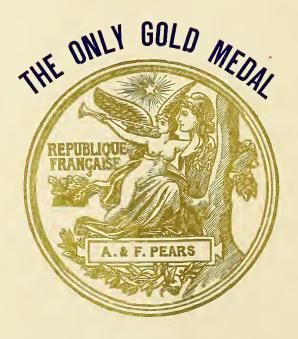
It has already been mentioned that the boiler house and power station are in separate buildings. The boiler house contains one 260 H.P. engine, and there is room for another. A well has been sunk 500 feet, and the factory has, therefore, its own water supply. All the fuel used is treated in a Grice suction gas producer. These power-producing elements are placed in the centre of the firm's freehold, which is significant, for when the time for extension comes they will serve the additional laboratories which are destined to fill the vacant acres.

Burgoyne, Burbidges & Co. hold appointments as Contractors to all Government Departments. They supply medical requisites to the War Office, the Admiralty, the Home Office, the Indian Government, Colonial Governments, the Brazilian Government, as well as to all the leading hospitals, dispensaries, institutions, universities and scientific laboratories at home and abroad. Their products have been awarded gold medals at the International Exhibitions of Edinburgh (1886), Paris (1867 and 1876) and Calcutta (1883–84).



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CITRATE

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EXTRACT OF MALT with COD-LIVER OIL

Oval jars, fitted with double air-tight caps $\frac{1}{2}$ lb. $\frac{5}{9}$; 1 lb. $\frac{9}{6}$; 2 lb. $\frac{16}{6}$ per doz.

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6 oz. 5/6; 12 oz. 9/. per doz.

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COMP. SYRUP OF GLYCEROPHOSPHATES

4 oz. 7/6; 8 oz. 12/6 per doz.

Fig. 325 w.

Fig. 183.

Wrapped or Cartoned 9d. per doz. extra.

Illustrated Price List forwarded on application.

Samples on request.

Fig. 586



Allen & Hanburys Ltd., London.



for Title

Name and Address

Fig. 768.

Toilet Preparations.

Illustrated on page 1.

BATH POWDER (Wood Barrels) 8 oz. 4/3; 16 oz. 6/* per doz.

LAVENDER WATER oz. 3/9; 2 oz. 6/6; 4 oz. 12/- per doz.

ROSA-CAMPH. CREAM 1 oz. 3/-; 2 oz. 4/6; 4 oz. 7/7 per doz.

TOOTH POWDERS Salol, Thymol, Antiseptic. etc. 36/- per gross

BORATED TALC DUSTING POWDER 6/ per doz.

LOTUS BLOOM SHAVING SOAP Supplied in bowls, cased, 7 - per doz.

> THYMOL MOUTH WASH 6 oz. 7/- per doz.

TINCTURE OF MYRRH AND BORAX No. 1-2 oz. 9/6; 4 oz. 16/- per doz. No. 2 2 oz. 6,6; 4 oz. 10,6 per doz.

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In Boxes containing 3 Tablets. Labels: Buff and Gold design on Dark Green.

Oval Series ... 8/- per doz. boxes Wedgwood Series 8/6 ,. . . . Oblong Series ... 9/-

Wrapped Tablets:

Oval Series ... 27/6 per gross Wedgwood Series ... 29/6 ,. ... Oblong Series ... 31/6

> An Illustrated Price List forwarded on request.

Fig. 805.

Allen & Hanburys Ltd., London.

The Finishing Couch

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1000 for 2/6. 5000 ,, 10/-.

PACKET, BOX, or BOTTLE

IS A SMART

GOLD SEAL. 5000 for 3/6.

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McK.&R." Capsuled Pills.

According to Formulas of the British Pharmacopæia and other Standard Authorities.

ALOIN OR APERIENT, No. 1. CALOMEL COMP., B. P. (Plummer), ACONITINE CRYSTALS. 1-500 ar. 5 grs. Aloin, Ferri Sulph... Ext. Nucis Vom., Saponis pulv., Dr. A. Dumas considers aconitine an or, A. Dunias considers acontine an energetic and very efficacious remedy, especially in congestive facial neuralgia. He lays great stress on the necessity for a reliable preparation, and we, therefore, call particular attention to these pills. CALOMEL AND OPIUM. Myrrhæ pulv., aa, 1-2 gr. Hyd. Subchlor., This formula was recommended by the late Sir Andrew Clark in the treatment of simple constipation. CAMPHOR, MONO-BROMATED, 2 and 5 ors ALOES, DILUTE (Dr. Hall Dinner Pill,) 4 grs. ALOIN OR APERIENT, No. 2. CANNABIS INDICA EXTRACT. 1-4 and 1-2 gr. Aloin, Ext. Nucis Vom., Ferri Sulph., Saponis pulv., Amyrrhæ pulv., aa, 1-8 gr. Aloes Barb., Pulv. Ext. Glycyrrh., Saponis pulv., Theriaca, aa, 1 gr. This extract has been esteemed as one of the most valuable medicines in the Materia Medica, but its usefulness has been greatly limited by the varying and uncertain char-acter of the extracts furnished by manu-ALOES AND IRON, B. P., This pill is one-quarter the strength of the one mentioned above, but is of the same formula and is recommended by the same ALOES AND MYRRH, B. P., 3 and 5 grs. acter of the extracts furnished by manufacturers. Our extract is made in porcelain vessels, from the best selected flowering tops, and we have each lot tested therapeutically, before sending it out, so that the Profession can depend upon its action with almost as great a certainty as they can on that of Morphine. 1-10, 1-4, 1-2 and 1 gr. authority. It is to be given in cases where "No. 1 is too strong." In an article on the management of Simple Constipation, the late Sir Andrew Clark said: "If the use of drugs is unavoidable, try the aloin pill. Take one half an hour before the last meal of the day, or just so much of one as will suffice to move the bowels in a natural way the next morning before breakfast. If it should produce a very copious motion, or several small motions, the pill is not acting right; only a fourth, or even less, should be taken for a dose. When the right dose has been found it may be taken daily or on alternate days until the habit of defecation is established. Dr. Clark used aloin in combination with nux vomica, iron, myrrh, etc. (See Aloin ALOIN OR APERIENT, No. 3. Aloin, Ext. Nucis Vom., Ferri Sulph., Ipecac. pulv., Myrrhæ pulv., CASCARA SAGRADA EXTRACT, This extract is prepared in our own laboratory, and can be relied upon. Useful in habitual constipation, dyspepsia, jaundice, and similar affections of the digestive Saponis pulv., aa, 1-8 gr. This pill, the third one of the series, will be found of value where No. 2 (above) is indicated, provided there is no special weakness of the heart. organs. ALOIN OR APERIENT, No. 4. CATHARTIC COMPOUND, U. S. P. (Purgative.) Aloin, Ext. Nucis Vom., Ext. Belladonnæ, Ferri Sulph., nux vomica, iron, myrrh, etc. (See Aloin or Aperient, No. 4.) Ext. Jalapæ pulv., Hyd. Subchlor., aa, 1 gr. Ext. Coloc. Co. pulv., 1 1-3 grs. Cambogiæ pulv., 1-4 gr. ALOIN COMPOUND. Myrrhæ pulv., Saponis pulv., Aloin, Ext. Belladonnæ, One pill will act as a laxative, and two as a aa, 1-8 gr. cathartic. Particularly applicable to the early stages of bilious fevers, to hepatits, jaundice and all those derangements of the alimentary canal, or of the general health, In cases in which the above formulas Podophyllin, appear to act in a more or less irregular manner, and belladonna appears to be indicated, this pill will be found of service. The above four formulas, which have ALOIN, HYOSCYAMUS, NUX VOMICA AND IPECAC (Pil Salutis, Dr. Thomas.) which depend on congestion of the portal Aloin, Ext. Hyoscy., Ext. Nucis Vom., Pulv. Ipecac., been graduated to form, as near as possible a "natural" aperient, were recommended circle. 1-2 gr. a "natural" aperient, were recommended by the late Sir Andrew Clark. 1-8 1-4, 1-2 and 1 gr. 1-6 gr. COLOCYNTH COMP., B. P., 4 and 5 grs. ANTI-DYSPEPSIA (FOTHERGILL.) A gentle laxative and an aid to digestion; one at bedtime and repeat just after break-COLOCYNTH COMP. AND BLUE MASS. Strychnina. 1-20 gr. 2-3 gr. 1 1-2 grs. Pulv. Piper. Nig., fast if necessary. Pil. Coloc. Comp., B. P., 3 grs. Massa Hydrarg., 2 grs. ALOIN AND STRYCHNINE. Ext. Gentianæ, ı gr. { Aloin, Strychnina, 1-5 gr. \ 1-60 gr. \ COLOCYNTH COMP. AND CALOMEL, 5 grs. Recommended by the late Dr. Fothergill in his article on "Atonic Dyspepsia." Ext Coloc. Co., Hyd. Subchlor., A tonic laxative granule, prescribed for chronic constipation where a painless peri-staltic action is desired. Especially useful ANTI-MALARIAL (See QUININE COMPOUND). COLOCYNTH AND HYOSCYAMUS, B. P., 5 grs. APHRODISIAC. (See Damiana and Phosphorus Compound.) in the treatment of the aged. CORROSIVE SUBLIMATE, 1-30, 1-20 and 1-10 gr. ALOIN, STRYCHNINE AND BELLADONNA. ARSENIOUS ACID. 1-100, 1-50, 1-30 and 1-20 gr. DAMIANA AND PHOSPH. COMP. (APHRODISIAC). Aloin, Strychnina, 1-5 gr.) ASAFETIDA COMP., B. P., Ext. Turneræ Aphro., 2 grs. Ext. Nucis Vomicæ, 1-3 gr. Phosphorus, 1-100 gr. ATROPINE. 1-200 and 1-100 gr. Ext. Belladonnæ, 1-8 gr. BLENNOSTASINE, 1, 2, 3 and 5 grs. A tonic laxative granule, prescribed where a painless peristaltic action is required. Useful in sexual debility. Dose, 1 or 2. An invaluable remedy in influenza and common colds. In hay fever it acts almost 1-60 gr. DIGITALIN. ALOIN, STRYCHNINE AND BELLADONNA COMP. as a specific. Aloin, 1-5 gr. Strychnina, 1-60 gr. Ext. Belladonnæ, 1-8 gr. Ext. Rhamni Purshianæ, 1-2 gr. DINNER (Lady Webster.) 1, 2, 3 and 5 grs. BLUE MASS, B. P., Pulv. Aloes Soc., Pulv. Mastiches, Pulv. Rosæ Gallicæ, 2 grs. BLUE MASS, COLOCYNTH AND HYOSCYAMUS. 1-2 gr. Massa Hydrarg., Ext. Hyoscy., Ext. Colocynth. Co., ı gr. A laxative in habitual constipation. Dose, pill, repeated three times a day if neces-One or two pills taken shortly before a meal will usually produce one free evacua-3 grs. CALCIUM SULPHIDE. 1-10, 1-4, 1-2 and 1 gr. ALOIN, STRYCH., BELLADONNA AND IPECAC. Recommended by Dr. Ringer in 1874. ECLECTIC OR PODOPHYLLIN. Aloin, Strychnina, Ext. Bellad., Pulv. Ipecac. 1-4 gr. 1-60 gr. 1-20, 1-10, 1-4, 1-2, 1, 2, 3 and 5 grs. CALOMEL, Res. Podophylli, Res. Leptand., Res. Juglandis, Res. Cimicif., Ol. Capsici. 1-8 gr.) CALOMEL, COLOCYNTH AND HYOSCYAMUS. 1-8 gr. 1-16 gr.

THE READY SCLUBILITY of "McK. & R." Pills is easily proved by placing a quinine pill on the tongue and noticing the rapid dissolution of the gelatine.

Hyd. Subchlor., Ext. Coloc. Co., Ext. Hyoscy.,

A prompt and efficient tonic laxative; does not gripe.

Complete list of formulas on application.

3 grs.

аа, 1-16 gr.

1-32 gr.

NOTE CHANGES AND ADDITIONS TO THE LIST.

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According to Formulas of the British Pharmacopæia and other Standard Authorities.

| EMMENAGOGUE. | OPIUM AND CAMPHOR. | QUININE SULPHATE, 1-4, 1-2, 1, 2, 3, 4, 5 grs. |
|--|--|--|
| [Ergotin, 1 gr.] | { Opium, I gr. Camphor, 2 grs. } | QUININE AND STRYCHNINE. |
| Ext. Helleb. Nig., 1 gr. | Dose, 1 pill. | Quininæ Sulphas, 1 gr.) |
| Ferri Sulph. Exsic., 1 gr. | OPIUM, POWD., 1 gr. | Strychnina, 1-60 gr. |
| Pulv. Aloes Soc., 1 gr. Ol. Sabinæ, 1-4 gr. | PEPSIN, PURE, CONCENTRATED, 1 gr. | Dose, 1 or 2 pills. |
| The state of the s | Each pill equal in digestive properties to | QUININE VALERIANATES, 1-2, 1, 2 and 3 grs. |
| EMMENAGOGUE (Mutter). | 5 grs. Saccharated Pepsin. | In debility, attended with nervous dis order, 1 or 2 pills may be given, two of |
| { Ferri Sulph. Exsic., 1 1-2 grs. } { Terebinthina, 1 1-2 grs. } | PHOSPHORUS, 1-100, 1-50 and 1-30 gr. | three times a day |
| (Aloes Soc., 1-2 gr.) | Many of the Phosphorus Combinations | RHUBARB COMP , B. P., 5 grs. |
| ERGOTIN, 2, 3 and 5 grs. | given here are formulas used by Dr. Kirby of the Royal College of Surgeons, England. | RHUBARB COMP. AND BLUE MASS, 5 grs. |
| | | J Pil. Rhei Comp., 3 grs. { |
| of 30 grains Ergot of Rve. or 30 minims of | Phosphor Pur., 1-50 gr. \ | Pil. Hydrarg., 2 grs. |
| Each pill contains the active principles of 30 grains Ergot of Rye, or 30 minims of the liquid or fluid Extract. | Ferrum Reduct., 2 grs. | SALICYLIC ACID, 2 and 5 grs |
| EUONYMIN, 2 and 3 grs. | PHOSPHORUS, IRON AND QUININE. | STROPHANTHUS AND IRON. |
| EUONYMIN COMP. | Phosphor., Pur., 1-100 gr. } Ferri Carb. (Vallet,) 1 gr. } | (Sem. Strophanthi, 1-4 gr.) |
| (Euonymin, 1 gr.) | Ferri Carb. (Vallet,) 1 gr. \Quininæ Sulph., 1 gr. \ | Ferri Sulph., 1 1-2 grs. Potassii Carb., 1 1-2 grs. |
| Aloin, I-4 gr. | P'10SPHORUS AND NUX VOMICA. | This pill represents Blaud's formula in |
| Ext. Rhei, i gr. } | Phosphor. Pur., 1-50 gr. (| combination with strophanthus, and may be given where a ferruginous heart tonic |
| Ext. Nucis Vom., 1-8 gr. Ext. Hyoscyami, 1 gr. | Ext. Nucis Vom., 1-4 gr. | be given where a ferruginous heart tonic |
| | PHOSPHORUS, NUX VOMICA AND IRON. | is indicated. Dose, 1 or 2 pills. |
| FERRUGINOUS (Blaud.) 3 (fr. | (Phosphor, Pur., 1-50 gr.) | STRYCHNINE, 1-200, 1-100, 1-60, 1-50, 1-40, 1-30 and 1-20 gr. |
| FERRUGINOUS (Blaud.) 5 grs. | Ext. Nucis Vom., 1-4 gr. | Dose, according to case, from 1-200 te |
| Ferri Sulphas, Potassii Carb., aa, P. Æ. | (Ferri Carb., 1 gr.) | 1-20 gr. |
| | PHOSPHORUS AND QUININE. | STRYCHNINE SULPHATE, 1-200, 1-100, 1-60, |
| GUAIAQUIN, 1, 2 and 3 grs. (Guaiacol Quinine Bisulphonate.) See page 4. | Quininæ Sulph., 1 gr. | 1-50, 1-40 and 1-30 gr. |
| | PHOSPHORUS, QUININE, IRON AND STRYCH. | Dose, 1-200 to 1-50 grain at bed time. |
| IODOFORM, 1 gr. | (Phosphorus, 1-50 gr.) | THYMOL, (Thymic Acid), 2 1-2 grs. |
| IRON ARSENIATE, 1-8 gr. | Ferrum Reduct., 2 grs. | Used in cases of typhoid fever, pneu- monia and pleurisy, and also as a tænifuge. |
| IRON CARBONATE, B. P., 5 grs. | Quininæ Sulphas, 1-2 gr. Strychnina, 1-60 gr. | Dose, two 2 1-2 gr. pills every six hours. |
| IRON BY HYDROGEN 1, 2 and 4 grs. | PHOSPHORUS AND VALER. ZINC. | TONIC (Dr. Aiken.) |
| IRON IODIDE (Blancard,) 1 gr. | Phosphor. Pur., 1-50 gr. (| Quininæ Sulph., 1 gr. Acid. Arseniosum, 1-50 gr. |
| IRON AND QUININE CITRATE, 2 grs. | Zinci Valer., 1 gr. | Acid. Arseniosum, 1-50 gr. |
| IRON, QUININE AND STRYCHNINE. | PODOPHYLLIN, 1-8, 1-4 and 1-2 gr. | Ferrum Reductum, 2-3 gr. Strychnina, 1-50 gr. |
| Ferrum Reductum, Quininæ Sulph., aa, 1 gr. | PODOPHYLLIN COMP. | A valuable general tonic. Dose, 1 pill |
| Strychnina, 1-60 gr. | (Res. Podoph., 1-2 gr.) | three times a day. |
| | Ext. Coloc. Co., 2 grs. } | TONIC-LAXATIVE (Fothergill.) |
| LAXATIVE, VEGETABLE (Improved Cathartic.) | (Ext. Hyoscy., 1 gr.) PODOPHYLLIN COMP. (Dr. Janeway.) | Quininæ Sulph., 2-3 gr. Strychnina, 1-30 gr. |
| Res. Podoph., Ext. Hyoscy., | (Res. Podophylli, 1-2 gr.) | Strychnina, 1-30 gr. Ferrum Reduct., |
| Ext. Tarax., aa, 1-4 gr. | Aloe Soc., 1 gr. [| Ext. Bellad., aa, 1-4 gr. |
| Ext. Coloc. Co., pulv., 1 gr. | Ext. Bellad., | TRIPLEX. |
| Jalapæ pulv., Res. Leptand., aa, 1-2 gr. | Ext. Nucis Vomicæ, aa, 1-4 gr.) Dose, 1 or 2 pills. | (Ext. Aloes, 2 grs.) |
| Ol. Menth. Pip., | QUININE BROMIDE (Hydrobromate) 1, 2, 3 grs. | Res. Podophylli, 1-4 gr. |
| MANGANESE BIN-OXIDE, 2 grs. | Unites the alterative effects of bromine | (Massa Hydrarg., r gr.) Valuable where a cathartic is required |
| MERCURY BIN-IODIDE, 1-16 gr. | with the tonic properties of quinine. Dose, | with a peculiar action on the liver. Dose, |
| MERCURY PROTO-IODIDE, 1-20, 1-16, 1-8, 1-4 gr. | ı to 3 grs. | ı to 3 pills. |
| We now obtain this salt absolutely pure. | QUININE MURIATE, 1, 2 and 3 grs. | VALERIANATES QUININE, IRON AND STRYCH. |
| The irritation of the stomach so frequently | QUININE AND CAPSICUM. | Quin. Val., r gr. } Strych. Val., r-60 gr. } |
| caused by the ordinary salt is no doubt due | Quininæ Sulph., 2 grs. { Pulv. Capsici, 1-2 gr. } | (Ferri Val., 1 gr.) |
| to impurity, such as red iodide, and is not observed in the use of our proto-iodide. | Pulv. Capsici, 1-2 gr. S Capsicum is said to assist the action of | Useful in nervous debility. Dose, i pill |
| MERCURY WITH CHALK, No. 1 (Hutchinson.) | Quinine. Dose, 1 to 3 pills. | three times a day. |
| Hydrarg. cum creta, 1 gr. (| QUININE BI-SULPHATE, 1-4, 1-2, 1, 2, 3, 4, 5 grs. | WARBURG TINCTURE. Each pill represents 1 fluid drachm of the |
| Confect. Rosæ, q. s. s | Bi-Sulphate of Ouinine is much more sol- | tincture. |
| MERCURY WITH CHALK, No. 2 (Hutchinson.) | uble than the sulphate, the latter requiring | WARBURG TINCTURE WITHOUT ALOES. |
| Hydrarg, cum creta, 1 gr. | seven hundred parts of water to disolve it, while the BI-SULPHATE DISSOLVES | Each pill represents 1 fluid drachm of the |
| Doveri pulv., 1 gr. Ext. Gentianæ, q. s. | IN TEN PARTS. | tincture. |
| MERCURY WITH CHALK, No. 3 (Hutchinson.) | QUININE COMP. (Anti-Malarial.) | WARBURG TINCTURE WITHOUT ALOES. Each pill represents 2 fluid drachms of the |
| (Hydrarg. cum creta, 1 gr.) | Quininæ Sulph., | tincture. |
| Ext. Nucis Vom., 1-4 gr. | Cinchonid. Sulph., aa, 1 gr. Acid. Arsenios., 1-40 gr. | ZINC PHOSPHIDE AND EXT. NUX VOMICA. |
| Ferrum Reductum, 2 grs. Ext. Gentianæ, q. s. | Acid. Arsenios., 1-40 gr. Acid. Carbolic., | J Zinci Phosphidum, 1-10 gr. (|
| Ext. Gentianæ, q. s. J This preparation of mercury is the one | Menthol, aa, 1-8 gr. | Ext. Nucis Vomicæ, 1-4 gr. |
| preferred by Dr. Jonathan Hutchinson. | Capsici pulv., 1-4 gr. J | Tonic. Useful in palsy, neuralgia and chronic constipation, also in brain diseases |
| MORPHINE MURIATE, 1-8 and 1-4 gr. | This pill is largely prescribed in the most severe malarial districts of America, with | Dose, 1 to 3 pills. |
| NITRO-GLYCERIN, 1-100 and 1-50 gr. | remarkable results. | ZINC VALERIANATE, 1 and 2 grs |
| | | 3.0 |
| Special Combination of 3 000 or more P | ille made or Canculad to order for Hospitals | and large consumers at special quotations. |

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Every drug employed is rigidly tested and standardised physiologically or chemically, to ensure absolute purity and an exact degree of therapeutic power.

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Drugs of absolute integrity, in accurately-divided doses, unique in rapidity of solution. For human and for veterinary medication.

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Chocolate-coated Tablets, Tablet Triturates.

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A series of palatable preparations of drugs which are naturally distasteful.

Elegant yet fully active. Full list on request.

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STAPHYLOCOCCUS, STREPTOCOCCUS, GONO-COCCUS, TUBERCLE, and TYPHOID. Prepared in the laboratories of the Department of Therapeutic Inoculation in St. Mary's Hospital, London, under the supervision of the Director, Sir Almroth E. Wright. Full particulars on application.

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EUTHYMOL CREAM, EUTHYMOL LIQUID DENTIFRICE, EUTHYMOL SHAVING CREAM, EUTHYMOL SHAVING STICK, EUTHYMOL TALCUM POWDER, EUTHYMOL TOOTH PASTE, EUTHYMOL TOOTH POWDER, ETC .-Innocuous aromatic antiseptics adapted to the hygiene of the mouth, the teeth, and the skin.

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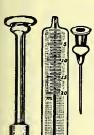
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20 m. 2 c.c. 5 c.c. 10 c.c. 20 c.c.

Made of specially tough glass, very durable, easy to manipulate and sterilize. A clearly-legible graduated scale is engraved on the face. The piston-head of dark glass is plainly visible against the opal background, it accurately fits the barrel and does not permit leakage. Supplied with or without steel or platinoiridium needles, and with or without strong nickel-plated cases which may be used as sterilizers.

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HYPODERMIC SYRINGE.

Thoroughly Satisfactory.

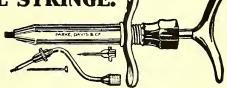
The glass barrel (capacity 20 minims) is encased in nickel-plated metal. An adjustable regulator on the piston rod can be set according to the dose to be used. The leather plunger can be expanded or contracted as required. Various patterns of Pocket Hypodermic Cases, containing this syringe and a selection of hypodermic tablets, are supplied.



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An extremely durable instrument.

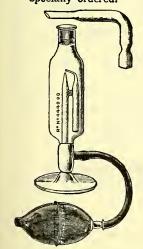
Capacity 25 minims. Solidly made and easily sterilized. Exerts high pressure. The distinctive shape of the piston head allows perfect control and comfort in use. Supplied with or without needles and mounts, and with or without a leather-covered and lined case.



THE "GLASEPTIC"

NEBULISER

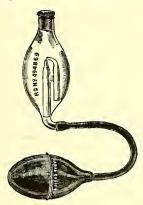
delivers an extremely fine nebula. It is primarily intended for use with oily solutions, but is effective with alcoholic or aqueous fluids. Throat tubes are not sent unless specially ordered.



The glass portion is drawn to scale of about one-half actual size.

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The glass portion is drawn to scale of about one-half actual size.

A modification in form, embodying the principle of the "Glaseptic" Nebuliser.

Supplied in cardboard, leather-covered, or solid leather cases, measuring $3\frac{1}{4} \times 3\frac{1}{2} \times \tau$ inch.

When ordering, please be careful to specify the exact title of the appliance required.

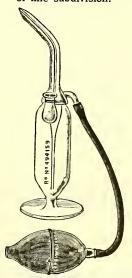
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is specially designed for use with aquecus or alcoholic solutions, which it delivers freely in a state of fine subdivision.



The glass portion is drawn to scale of about one-half actual size.

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UNDER YOUR OWN NAME AND STYLE

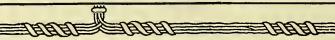
you become personally identified with a Preparation which will do you credit, and one in which a large business is being daily built up by wide-awake Chemists, who find it more profitable to offer an Emulsion under their name rather than preparations under a maker's name, and which may be bought at any of your neighbours'. In our opinion the Chemist himself is the best judge as to the price which can be obtained in his neighbourhood for his own preparations, and this is a point we have endeavoured to emphasise from the first.

Although our Emulsion of Cod Liver Oil with Hypophosphites has been IMITATED, it has never been EQUALLED, and from its being prepared in the MOST APPROVED AND UP TO DATE MACHINERY from the FINEST NORWEGIAN COD LIVER OIL, added to a base far and away superior to any of our competitors, OUR EMULSION REMAINS PERMANENTLY SWEET AND WITHOUT SEPARATION. We are DETERMINED TO MEET ALL REASONABLE COMPETITION, AND OFFER VERY SPECIAL TERMS AND INDUCEMENTS to Chemists who arrange their season's requirements with us. Further, our Emulsion is supplied ONLY TO CHEMISTS DIRECT.

If you would like a Sample and further particulars, send to

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OUR Works are replete with the most modern machinery procurable and with the aid of a large and trained staff have special facilities for the execution of orders for

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(for ice works),

SANTAL PERLES, ESSENTIAL OILS, MALTED FOOD,

MISCIBLE EXTRACTS

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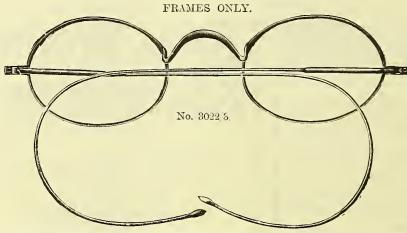
This Oxide, being prepared by direct combustion of the metal, is practically chemically pure, testing 99.8 per cent. ZnO, and far exceeds the requirements of the B.P., 1898. It is the whitest, finest and lightest in the market. Note the high percentage of oxide.



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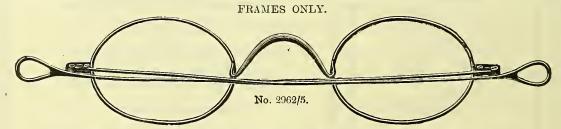
Gold Filled Spectacles.

1/10th 12 CARAT QUALITY.



These frames represent the best quality of material and workmanship obtainable and we GUARANTEE that one TENTH of their ENTIRE WEIGHT is TWELVE CARAT GOLD. The fronts are specially hardened and the bridges put on by a PATENTED PROCESS. The joints are a very neat ENGLISH PATTERN, and the sides are stump cable with pear or ball tips. A trial of these frames will demonstrate their excellent appearance and sterling WEARING QUALITIES.

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These frames are exactly similar to 3022, but with LOOP END STRAIGHT SIDES.

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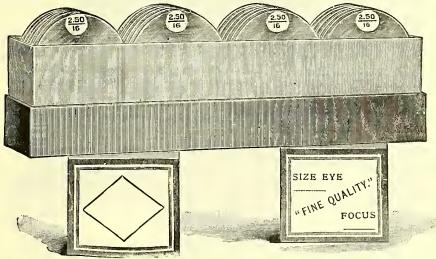
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Our lenses are made from a very hard white glass with a high finish. They are of accurate focus and correctly centred.

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Our "OPSILUS" lenses are the best that are produced, and are guaranteed by us to be perfect in every respect.



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| ,, | 4906 | Extra Fine, White, Periscopic Convex | 3/9 | 42/- |
| ,, | 4907 | " " " Concave) | 0.0 | |
| ,, | 4908 | "OPSILUS" Periscopic Convex The finest | 6/- | 66/- |
| ,, | 4909 | "OPSILUS" ,, Concave Lenses produced. | V , = | |

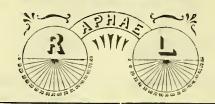
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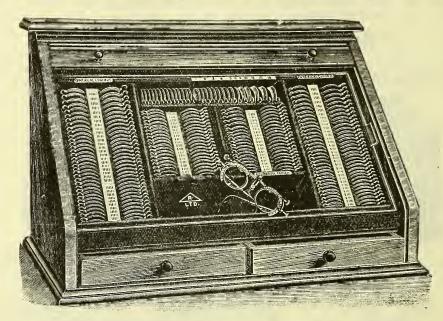
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The Roll Top Case



The Roll Top Case

Can be supplied in Light or Dark OAK, WALNUT, or MAHOGANY.
FIRST QUALITY LENSES, mounted in SOLID NICKEL and GOLD FILLED RINGS.

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| For S | IMILAR CAS | E ON PLINTE | H BASE (VER | Y HANDSOME) | | ••• | Add | £O | 10 | 0 |
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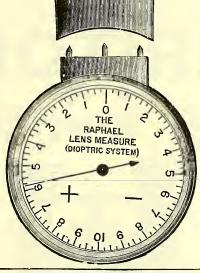


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The "Raphael"

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This instrument is invaluable to every optician, as it quickly registers the curves of any form of lens.



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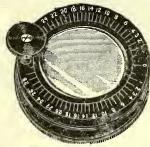
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ALL THE PRISMS IN ONE



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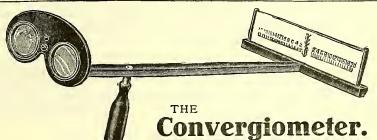
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POST FREE.

REGISTERS UP TO 30°,

MOROCCO LEATHER SNAP CASE, to hold Rotary Prism, 1/6.

For measuring convergence. It will accurately and quickly decide the required prism in cases of Exophoria and Esophoria.



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THE

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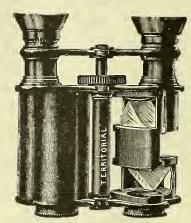
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Price

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net.



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This Glass is equal in every way to the higher priced Prism glasses, and gives brilliant definition with a FIELD OF VIEW of 90 yards at 1,000 yards distance. The MAGNIFICATION is 8 diameters, and it has bending bars for different pupillary widths and central screw focussing adjustment with independent focussing eyepiece for unequal vision. Height, $3\frac{3}{4}$ inches; Weight about 14 ozs.

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Opticians' Signs

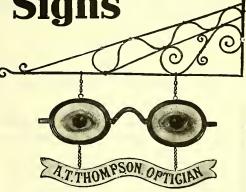
This is an illustration of one of our FLASHING SIGNS, of which we have a variety of patterns, ranging in price from £3 3s. upwards.

A GOOD SIGN IS A BUSINESS BRINGER,

and the cost of such a sign

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We can supply you with signs of any description, either illuminated or otherwise, and where our stock designs are unsuitable, can furnish special designs to suit purchasers' requirements.



No. 12295.

Price complete, including Bracket, £10 10s.

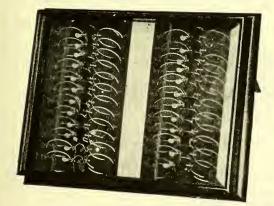
Length of Bracket, 7 ft. 1 in.

Length of Spectacles, 5 ft. 1 in.

Length of Ribbon, 5 ft.

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In order to fit RIMLESS GLASSES accurately it is necessary to have a number of different fittings with various angles of placquets and widths of spring so that the best style can be selected to fit the particular person being fitted. The best means of carrying this out is to equip yourself with a RAPHAEL FITTING SET.



Prices, Complete in Case.

| Set of 24 in Gold Filled | | £3 | 3 | 0 |
|-----------------------------------|------|------|---|---|
| Set of 12 in Gold Filled | | £1 1 | 2 | 6 |
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| Set of 12 in Nickel Steel | | £1 | 1 | 0 |
| Set of 24, half G. F., half Steel | | £2 1 | 2 | 6 |

These cases are of ebonised wood, lined with dark blue velvet, with a lift-off lid with bevelled plate glass top and strutted back, forming a handsome show case for the counter or window.

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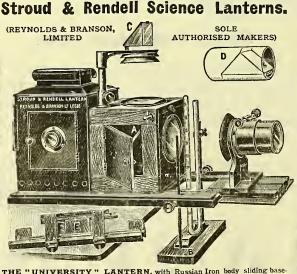
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No. 2 Electric Lamp, ditto, ditto, as Fig. 2. Dimensions, 11 ins. high, 7 ins. wide. Complete



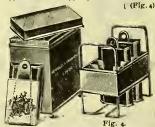


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Other sizes at proportionate prices. SPECIAL ADVANTAGES.

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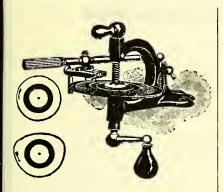


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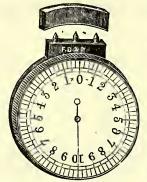
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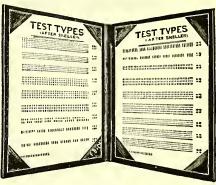
142 St. John Street, and 52 Clerkenwell Road, London, E.C.



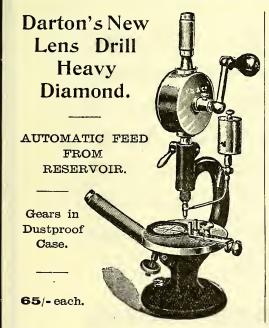
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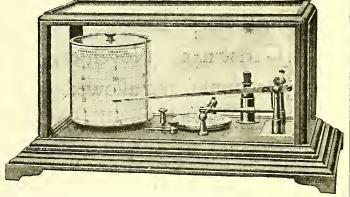
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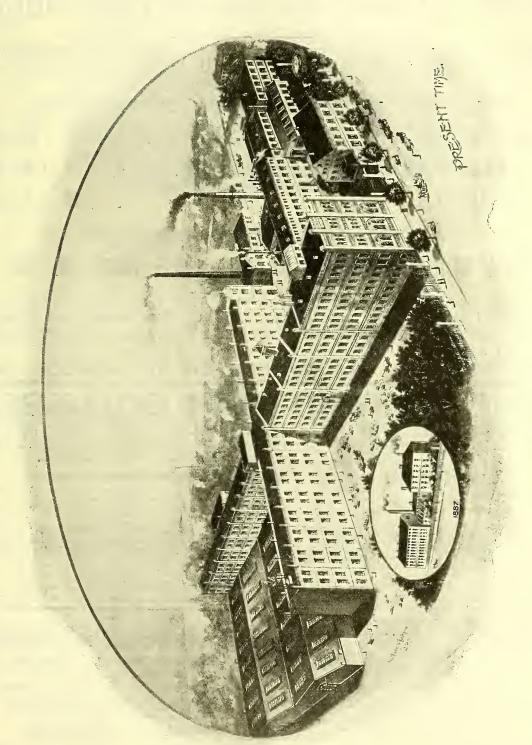
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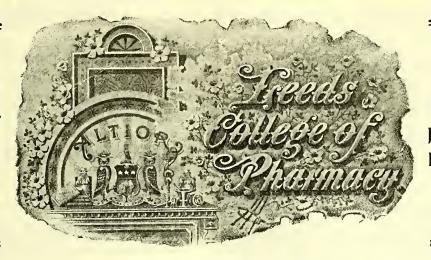
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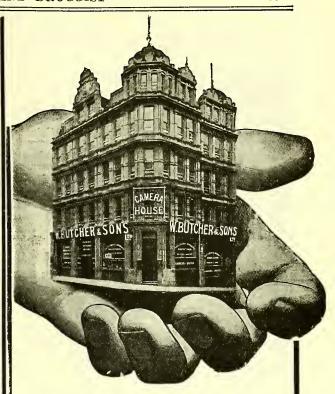
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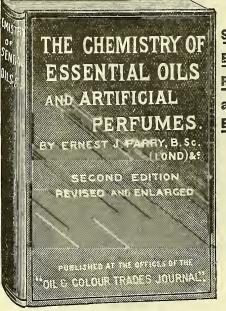
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These Hotels are most favourably situated with regard to the Houses of Parliament, Law Courts, Art Galleries and Theatres. In fact, they are within easy walking distance or short cab drive of nearly all places of interest frequented by those visiting London. They are almost equi-distant from the Great Railways, North, South, East and West; and the Museum and Holborn Stations on the Electric Railways being so close at hand, bring the Hotels to within seven minutes of the City, Royal Exchange, and Bank of England; while the Agricultural Hall, South Kensington, Earl's Court, Olympia, Shepherd's Bush, &c., can be reached within 15 to 30 minutes.

Intending visitors are requested to send an intimation, if possible, by post or telegram prior to arrival, that rooms may be reserved.

TELEGRAPHIC ADDRESSES:

THACKERAY HOTEL:

Kingsley Hotel: "BOOKCRAFT LONDON."

BEDROOMS (including Attendance)

s. d. s. d. from 3 6 to 6 0

Inclusive charge for Bedroom, Attendance, Table d'Hôte Breakfast and Dinner, from 8/6 to 10,6 per day.

FULL TARIFF AND TESTIMONIALS ON APPLICATION.

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AT THE
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Beware of spurious Imitations!

ICHTHYOL

Original Tins look as follows:



Labels and registered Trademarks:





Sole makers:

Ichthyol-Company Cordes, Hermanni & Co. Hamburg. Supplement of the Orientst and Druggist, bandary our 1909

e e e idithyol. e e e

This special sulphur preparation, brought into commerce under the mark of "Ichthyol" by the Ichthyol Company Cordes Hermanni & Co. in Hamburg has not lost its youth, as every year fresh indications for its employment are published, and by authorities of the highest rank.

For instance, **Professor Pagenstecher**, the renowned eye specialist, warmly recommends the employment of **lchthyol** in **eczema** of an impetiginous character as well as in **ophthalmic practice**. In the secondary symptoms of the conjunctiva and cornea, so often seen in neglected children, the diseased epidermis of the head may be painted with undiluted Ichthyol, and in all eye bandages it is useful. After **operations** on the eyelashes patients are directed to close both eyes as in sleep, and the edges of the lids are then moistened with undiluted **lchthyol**, followed by a muslin compress saturated with liquid paraffin and held in position by spectacles or a bandage. **Pagenstecher** also adopts the same procedure in **major operations**, undiluted **lchthyol** being applied to the fresh wound after extirpation of the lachrymal gland. He calls the **lchthyol** bandage an ideal dressing.

Again, Professor De Renzi, President of the Third International Tuberculosis Congress, praises ichthyol as an adjunct in the treatment of Pulmonary Tuberculosis. Of course he is an adherent of the hygienic dietetic treatment, but also believes in the assistance of drugs. Like many other authors he has observed that ichthyol diminishes the cough and reduces expectoration, whilst the patients enjoy a better appetite and consequently gain more in weight during its administration.

His prescription is:

R. Ichthyoli 6 drs. Elixir simplici 5 ozs. Aqua dest. 2 ozs.

One to three teaspoonfuls in a glass of water, once or more daily.

One to three teaspoonfuls in a glass of water, once or more daily.

As much as ten teaspoonfuls can be easily tolerated daily, and must, of course, be continued for a lengthy period.

The most frequent employment of Ichthyol at the present day is, however in various dermatoses, where an antiparasitic, reducing and Kerato-plastic action is desired; in erysipelas, where 20 to 50 per cent. Ichthyol-collodion or -vaseline is almost a specific; and in rheumatism, where massage of the affected parts with 10 to 25 per cent Ichthyol ointment or application of warm compresses saturated with 10 per cent Ichthyol solution affords much relief. Ointments containing 25 to 50 per cent Ichthyol have also been much prescribed in parametric troubles and peritonitis; and in inflammatory diseases of women tampons saturated with a mixture of Ichthyol and Glycerine (10:90) are generally used.

That Ichthyol in spite of the fact that its odour and taste is against it, has made its way is a conclusive proof of its special therapeutic merits. The proof of success is on the other hand furnished by the numerous imitations which have sprung up and try to pass for Ichthyol. Although such imitations have been tried but in a few cases and are not at all identical to Ichthyol, they are offered by unscrupulous makers and dealers as good substitutes for Ichthyol so that one of the most leading Swiss clinisions, Professor Bourget considered it necessary, to point out in his work "Le Traitement médical des inflammations du Coecum" that he had only found the original product of the Ichthyol Company of Hamburg effective and reliable

For further particulars apply to the sole makers:

Ichthyol-Company Cordes, Hermanni & Co. Hamburg.





Established 1826.

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Complete Shop Fitters,
Show Case Makers &
Artistic Shop Front
Builders.



93 Old St., London, E.C.

Telegrams, "Josiphiah, London."

Telephone, London Wall 9057.





Philip Josephs & Sons, Ltd.,

Complete Shop Fitters,

OLD STREET, LONDON, E.C.

PRODUCTIONS. 1909



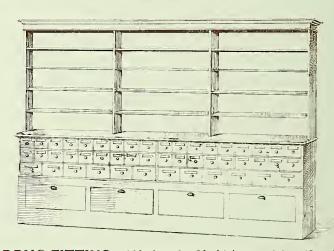
WALL SHOWCASE—6ft. long by 9ft. high. Upper case measures 6in. deep, lower case 11in. deep. All exposed parts solid mahogany. Sashes glazed 21 oz. glass and fitted inside with sliding polished edged shelves.

£7 17 6

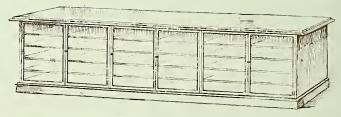


DISPENSING SCREEN AND COUNTER-6ft. long, all exposed parts of solid mahogany. Central plate glass mirror and plate glass showcases on each side and under. Top finished by hand-carved pediment. Mahogany dispensing top to counter with shelves for dispensing rounds.

£9 10 0



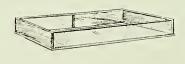
DRUG FITTING—12ft. long by 9ft. high, containing 48 mahoganised dovetailed drawers, each fitted with bevelled edged glass label and knob. Bottle lockering under, and shelving and uprights Price £8 17 6 surmounted by bold cornice above.



SERVING COUNTER—12ft. long by 3ft. high by 2ft. wide. All exposed parts of solid mahogany. Opening in front with plate glass sashes and fitted inside with sliding shelves. Price £8 7 6



PERFUMERY CASE & DESK-2ft. long by 2ft. 3in. high. All exposed parts solid mahogany. Opening with plate glass sash and fitted with sliding shelves. Desk and case both fitted with lock and key. Price £2 8 6



COUNTER CASE - 6 ft. long by 1ft. 6in. wide by 8in. high. All exposed parts of solid mahogany. Plate glass top and front. Opens at back with two plate glass mirror falls. Lined marone felt. Price £3 10 0

Philip Josephs & Sons, Ltd.

:: :: Complete Shop Fitters, :: :

93 OLD STREET, LONDON, E.C.

- ¶ For the special benefit of our Colonial and Foreign Clients and for Home Customers wishing to effect a speedy opening we have decided to again issue the "COMPLETE" sets originated by our Firm in 1897.
- These sets can be altered to suit any size Pharmacy at strictly pro-rata prices.
- The sets can be despatched complete (unless special sizes are required) within five days from receipt of order.
- ¶ Colonial and Foreign Clients are reminded that packing cases for export are extra. These usually amount to 10% on value of order. Home orders are packed free, subject to empties being returned carriage paid.

£30

10ft. DRUG FITTING, with mahoganised drug drawers. fitted with bevelled glass labels and knobs. lockering, shelving, cornice and uprights; 6ft. dispensing screen, with plate glass mirror centre and showcases on each side and counter with panelled front under; 6ft mahoganised wall showcase 9ft. high and fitted with shiding shelves; 8ft. serving counter with mahoganised panelled front, 2ft. nests of counter drawers with two label and 4 other drawers; perfumery showcase with writing desk attached; 4ft. mahogany and plate glass counter showcase.

£75.

14ft. MAHOGANY DRUG FIXTURE, with bevelled edged glass labelled drawers, cut glass knobs, shelving, pilasters, cornice and lockering and plate glass mirror poison cupboard fitted with shelves; 12ft. mahogany and plate glass serving counter; 10ft. mahogany and plate glass serving counter; 20ft. mahogany wall case fitted with sliding shelves; plate glass and mahogany perfumery case and writing desk; 6ft. bent plate glass and mahogany counter case; 4ft. nest of counter drawers, with label. till and paper drawer; 7ft. dispensing screen, counter and sponge case combined. All of mahogany and plate glass and screen fitted with plate glass shelving. Mahogany and plate glass SILENT SALESMAN JUNIOR, (illustrated on page 4): nest of counter drawers for behind dispensing screen.

£40.

Complete set as shown on page 2.

£100.

16ft. HANDSOME DRUG FITTING, with solid mahogany fronted drug drawers fitted with bevelled edged glass labels and knobs. Lockering under and pilasters, shelving and cornice over surmounted by cornice and fitted with mirror and plate glass shelved recess, spandrails and carved mahogany trusses; 14ft. mahogany and blate glass serving counter; 2 nests of counter drawers and shelves for back. comprising label, paper and till drawers; 10ft. mahogany wall case; mahogany and plate glass perfumery case and writing desk; 8ft. mahogany and bent plate glass counter case; 7ft. very handsome dispensing screen, with large central plate glass mirror, and plate glass mirror lined showcases on each side with plate glass shelving, fitted at back with drawers and shelving, a SILENT SALESMAN (illustrated on page 4], (12 dozen assorted sizes) recess labelled shop rounds. I dozen dome covered recess labelled ungt. jars and 6 recess labelled syrups.

£50.

12ft. MAHOGANY DRUG FIXTURE, with shelving, pilasters and cornice and bevelled edged glass labels, cut glass knobs and lockering under; l2ft. mahogany and plate glass serving counter; 6ft. mahogany wall case fitted with sliding shelves; 6ft. mahogany and plate glass dispensing screen with plate mirror centre and plate glass counter under; 2ft nest of counter drawers with label drawers; 6ft. mahogany and bent plate glass counter case; plate glass and mahogany perfumery showcase and desk.

£200.

16ft. VERY HANDSOME DRUG FITTING, with solid mahogany fronted drug drawers fitted with bevelled edged glass labels and knobs, shelving, cornice pilasters. spandrails, carved mahogany trusses and lockers. All drug shelving lined with plate glass mirror backs: 14ft. mahogany and plate glass mirror backs: 14ft. mahogany and plate glass serving counter fitted with drawers and shelves at back; 14ft of sundries fitting for back wall with cupboards under and plate glass mirror lined shelving and cornice over: 12ft. plate glass and solid mahogany wall showcase, lined inside with plate glass mirror and plate glass shelving; 7ft. very handsome dispensing screen, with shaped plate glass mirror centre and showcases on each side with plate mirror backs and shelving, fitted at back with drawers and shelves; plate glass and mahogany ornamental perfumery showcase and writing desks SILENT SALESMAN JUNIOR (fillustrated on page 4) 18ft. mahogany and plate glass counter showcase. SILENT SALESMAN (for centre of shop, illustrated on page 4) 26ft. mahogany and plate glass shelving; 18 dozen (assorted sizes) recess labelled shop rounds; 1½ dozen recess labelled ungt. jars and six recess labelled syrups.

TESTIMONIALS can be inspected at our Offices daily between 10 a.m. and 6 p.m.

The Original Silent Salesman

Copied by Many

Beaten by None





The "SILENT SALESMAN JUNIOR." Similarly constructed and measuring 3ft. 6in. high over all by 2ft. square and with two plate glass shelves £6 10 0.



The "SILENT SALESMAN" measures 6ft. 6in. high over all by 2ft. by 2ft. Constructed of solid mahogany and plate glass. Made on the approved airtight principle, opening at back with transparent plate glass door. Interior fitted with three plate glass polished edged shelves on adjustable tapped bars and brackets. £10 10 0.

(Note reduced price.)

The "BABY SILENT SALESMAN." Constructed of solid mahogany and plate glass. Opening at back with plate glass sash and fitted with 2 plate glass shelves. Measures 2ft. 6in. high by 1ft. 6in long by 1ft, deep. £3 10 0.

P. LELASSEUR, Proprietor.

Mitcham Road, W. Croydon.

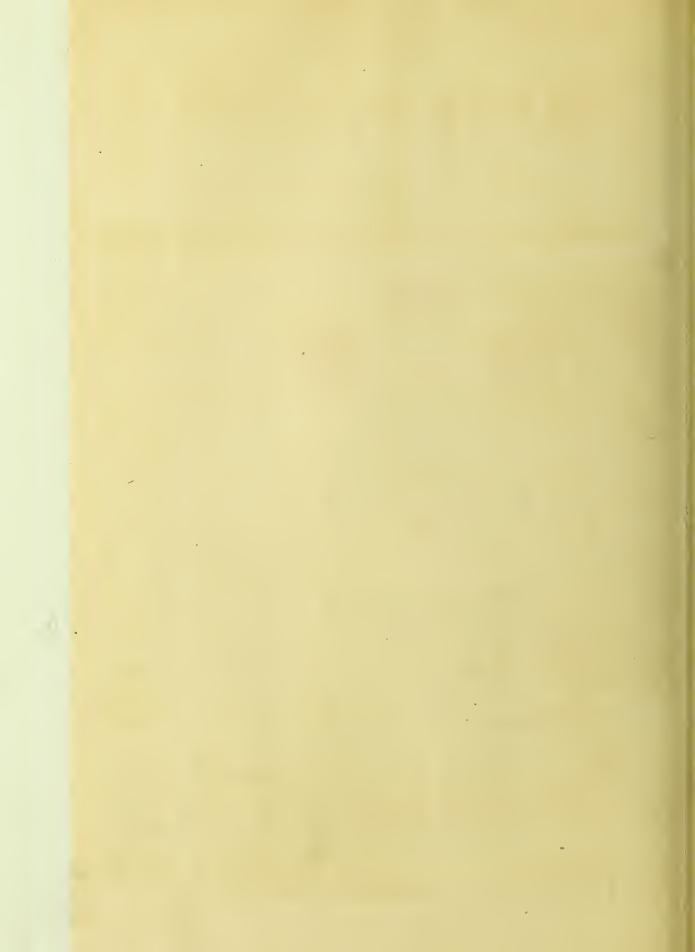
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The highest award for the production of SSENTIAL OILS OF PEPPERMINT, LAVENDER & CAMOMILE.



SIX FARMS AND THREE DISTILLERIES IN THE MITCHAM DISTRICT.



Mitcham Growers and Distillers of PEPPERMINT, LAVENDER, CAMOMILE, &c., Road Steam Distillery, CROYDON (Surrey).



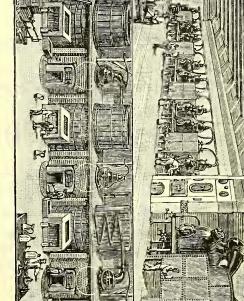


Liverpool, 1886 Antwerp, 1885 PRINCIPAL London, 1890. Paris, 1889. Paris, 1885. EXHIBITIONS

Lyons Universa (Member of Jury) Hors Concours Exhibition.







the introduction of Messrs. Jakson's carried out as they have been since highest quality been so successfully means for obtaining products of the cinal plants, from which oils of superior peppermint, lavender, and other meditury for the successful cultivation of out this and part of the previous cenbut at no previous period have the quality have always been Mitcham has been renowned throughproduced,

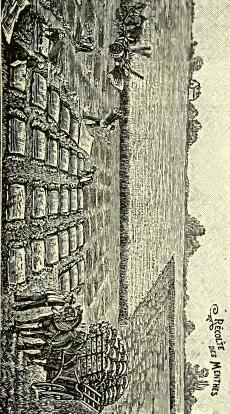
REDWOOD, Ph.D., F.I.O., F.O.S., &c.,

Emeritus Professor of Chemistry and

17 Bloomsbury Square, London, 9th January, 1886.

essential oils, and to the excellent which are here provided for distilling grounds and distilleries of Messrs. John ments, with all modern appliances, his firm to a careful physical and nony to the very complete arrangehemical examination, I can bear testinitted samples of the oils prepared by ion of lavender, peppermint, and Takson & Co., devoted to the producther essential oils, and having sub-Having visited the cultivation

quality of the oils so distilled.



1709 (200 YEARS) 1909

Eau de Cologne

Of the MOST ANCIENT DISTILLER,

JOHANN MARIA FARINA, GEGENÜBER DEM JÜLICHS-PLATZ

ESTABLISHED A.D. 1709 at COLOGNE oR.

Prize Medals:

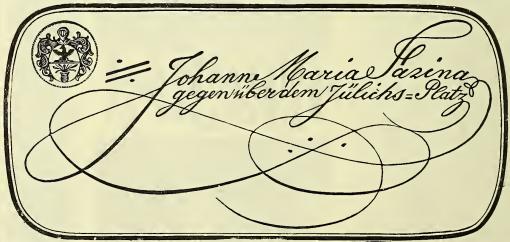
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BY APPOINTMENT

Purveyor to His Most Gracious Majesty Edward VII.,
Ring of Great Britain and Ireland and Emperor of India;
Also to Her Late Majesty Queen Victoria.
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Christian IX., King of Denmark; The Queen Regent of
the Netherlands, &c., &c., &c.

The following is a facsimile of my Label; anyone selling or exposing for sale any imitation of the same will be proceeded against in the High Court.



There are many imitations of my Cologne o.1 the English Market, but no retailer should risk his reputation by selling an article of inferior or uncertain quality.

The "GENUINE" EAU DE COLOGNE

MANUFACTURED BY

JOHANN MARIA FARINA,

FOR 200 YEARS, 1709-1909, at

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Is prepared in one quality only—the Best. This quality never varies in the slightest degree, and there has not been the smallest change in the manufacture since the year 1709 when it was invented by my ancestor.

It allows the Retailer a SUBSTANTIAL CUARANTEED PROFIT—Protected through the P.A.T.A.

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1/6 size 12/- doz.
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LESCOL DAMASK CREAM. LESCOL TOILET SOAP. LESCOL SHAVING STICK. LESCOL SHAVING CREAM.

"THYMO-LESCOLINE" (the ideal Mouth Wash).

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POMADE HONGROISE, &c.

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ESSENTIAL OILS.

EUCALYPTUS (Glob.), ANISEED OIL (China Star). PEPPERMINT, CLOVES, LEMON, SANDAL WOOD, &c., &c.

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GOLD MEDAL StLouis 1904

STAFFORD ALLEN & SONS ITE Cowper St London . E.C.

The Opinion of Recognised Authority.

See in the Diary for 1909 what

Mr. J. PARRY, B.Sc., F.I.C., F.C.S., Analytical & Consulting Chemist.

Artificial & Synthetic Essences

of

CHUIT, NAEF & CO., GENEVA (Switzerland)

CONCLUDING STATEMENT.—In conclusion, my results enable me to say that all the products of Messrs. Chuit, Naef & Co. that I have examined are of the highest degree of purity, and in the case of mixtures of the sweetest and most powerful odour possible.

OLONIQUES'

DRAWN DIRECT FROM THE FLOWERS BY NEW PATENTED PROCESS.

"OLONIQUES" (derived from Greek) means: complete, entire, that is to say our products are in fact exclusively, completely and entirely the concentration of the perfume or the bouquet of the plant or flower.

Floral Extracts at any price are produced by simply dissolving the "Oloniques" in Alcohol.

"OLONIQUES" keep good in any elimate for any length of time.

THE FOLLOWING ARE STOCKED IN LONDON IN 1-0Z. POTS:-

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|----------------------|---------|---------|----|-------------|-----|-------|-----|---------------------|--------|---------|---|-----|---------|---|----|---|
| BRUYÈRE (Heather) | • . • | | | per oz. | | 7 2 | | LIS (Lily) | | | | | per oz. | | 6 | |
| CAPUCINE (Nasturtium |) | | | ., | 1 | 2 10 |) | MIMOSA | | ••• | | | . ,, | 0 | 13 | 9 |
| CASSIE | • • • • | | | 11 | 1 | 5 1 | | MUGUET (Lily of the | Valley |) | | | ,, | 0 | 7 | 2 |
| FLEUR DE LAVAND | E (La | vende | r) | ,, | 0 | 2 4 | ιį | ŒILLET (Carnation) | | | | | ,, | 0 | 6 | 1 |
| FLEUR DE VIGNE | | | | ,, | 1 | 6 3 | ; | OPOPONAX | | | | | 11 | 0 | 6 | 8 |
| | v Mov | vn Ha | y) | ,, | 0 | 6 1 | | OPUNTIA | | • • • • | | | 11 | 0 | 11 | 5 |
| GENÊT (Broom) | | | | ,, | 1 | 7 5 | 6 | PEAU D'ESPAGNE | | | | | ,, | 0 | 10 | 4 |
| HÉLIOTROPE | | | | ,, | 0 1 | 0 4 | | ROSE | | ••• | • | ••• | ,, | 0 | 16 | 0 |
| JASMIN | | | | ,, | 1 | 0 7 | 1 | SAUGE MUSCAT | ••• | • • • • | • | | 11 | 0 | 7 | 2 |
| JONQUILLE | | | | 11 | 1 | 0 7 | 1 | TREFLE (Clover) | ••• | ••• | | | ,, | 0 | 10 | 4 |
| LILAS (Lilac) | | | | ,, | 0 | 6 1 | | VIOLET | | | | | 11 | 0 | 18 | 3 |
| LILAS DE PERSE | | • • • • | | 11 | 0 | 6 1 | | WHITE ROSE | | | | | 13 | 0 | 9 | 2 |

ESTABLISHED

. 1782. .

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GOLD MEDAL:
MARSEILLES, 1861.
2 MEDALS:
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ABOVE CLASS.

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ESSENTIAL OILS, POMADES, FLOWER EXTRACTS, &c.

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Illustrated

Catalogue

will be ready

Feb. 15

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DISTILLERS ESSENTIAL OILS.

ROURE-BERTRAND FILS FOUELO MATRES PREMES DOUR PARFUMERIE GRASSE (ALPES MARITIMES)

MANUFACTURERS OF

RAW MATERIALS FOR PERFUMERY AND SCENTED SOAPS AND HIGH-CLASS PERFUMERY EXTRACTS FROM FLOWERS.

Essences solides, liquides and absolues. drawn directly from the flowers a speciality.

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Packed in 10 lb. and 20 lb. Tins, and 1 lb., $\frac{1}{2}$ lb., and $\frac{1}{4}$ lb. Bottles. CORRESPONDENCE SOLICITED

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Distillers of Essential Oils and Cultivators of Medicinal Plants.

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The test of cheapness is quality—not price. Shipkoff's Rose is the cheapest, because it is the best Otto in the market. It is the standard brand -always pure and uniform, and one quality only,

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SAVE HALF YOUR SPIRIT BILL,

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for the coming season, DO NOT FORGET US. We can show you the finest selection ever offered. We have always made FANCY SPRAYS a special study and feature in our business. Write for our Special Spray Catalogue (44 pages) of original and exclusive patterns.

From 9/6 to 120/- per dozen.

We will send 1 dozen assorted, carriage paid and free box, to any part of the United Kingdom as a sample.



Fig. 12219.



4 colours. English Glass. 4 colours. English Glass.



Fig. 29661.



Fig. 9301.



Fig. 12538.



Fig. 7781.

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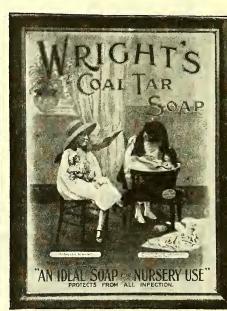
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YIELDING OVER 100 PER CENT. PROFIT.

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WELL PERFUMED, SMARTLY WRAPPED AND CARDED.

| $4\frac{1}{2}$ d. size, $4 \times \frac{3}{4}$ 6d. ,, 4×1 9d. ,, $5\frac{1}{2} \times 1$ | | | | | | | | | 2/3 per dozen | 24/- p | er gross. | Carriage |
|---|-----|-----|-----|-----|---------|-----|-----|-----|---------------|--------|-----------|----------|
| 6d. ,, 4 ×1 | ••• | ••• | ••• | ••• | • • • • | | ••• | | 2/6 ,, | 27/- | ,, | Paid. |
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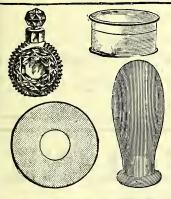
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Each $\frac{8 \times 6}{2/6}$ $\frac{6 \times 10}{2/9}$ $\frac{6 \times 12}{3/2}$ $\frac{8 \times 10}{3/8}$ $\frac{8 \times 12}{3/8}$ Larger sizes also in stock.

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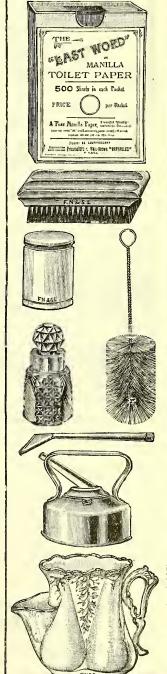
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|----------|-----|---------|-------|---------|
| Ordinary | 2 N | Iinute] | | 7/3 |
| 11 | 1 | 11 | | 9/6 |
| 19 | 3 | 19 | | 10/3 |
| Lens | 2 | 2.7 | | 11/- |
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LAVONA DE COMPOSÉE FLOWERS OF OXZOIN

ARE REDUCED IN PRICE

TO-KALON PERFUME (French Fon Fleur)

is now put up in 2 dram as well as 1 oz. bottles.

Obtainable from all the Leading Wholesale Houses.

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22

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COLD CREAM SHAVING SOAP.



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The highest possible ELECANCE OF APPEARANCE
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OBTAINED BY ANYONE WITHOUT SKILL OR PRACTICE

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ALL YOU DO.

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THE CAP DOES THE REST.

PUT THIS CAP
LOOSELY OVER
THE NECK OF
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STRONG CORKS, &c., CANNOT MOVE. AS IT SHRINKS IT

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SMOOTH, GLOSSY, ELEGANT APPEARANCE.

PERMANENTLY CLEAN & BRILLIANT.

EXTREME SIMPLICITY. SELF-FIXING.

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FAR BETTER THAN SKINS OR OTHER CAPPINGS.

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| BEE | THAM'S | 3 | | | | s. | đ. | s. | d. | | 1 |
| ,, | LAIT LA | ROLA | | | | 1 | 0 | 9 | 0 | For | // |
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| ,, | ,, | | VASH | | | $\frac{2}{2}$ | Ö | 16 | 3 | | |
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It Removes and Prevents all Roughness, Redness, Tan, Chaps, Irritation, &c.

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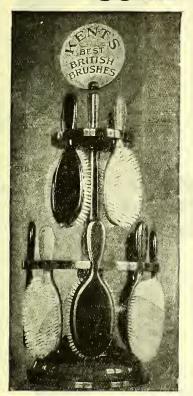
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KENT'S "PEARS"

Made at our Apsley Factory by Patent Machinery in 5 Woods.

P Purdah,

E Ebony, A Yellow, R Rosewood, S Satinwood.

G 201 18/6 11 row, Low Cut, White Bristle. G 210 20/-

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G 211 23/13 row, Low Cut, White Bristle.

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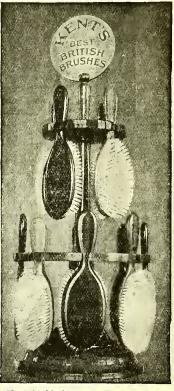
G 216 33/-

13 row, Mid Cut, White Bristle. G 220 15/-

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EBONY 3/- per dozen extra.

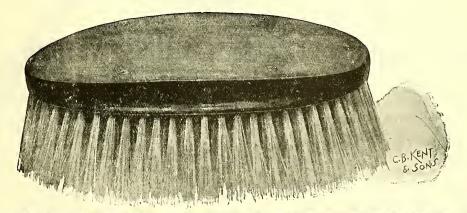
If Ebony dull polished, 5,- per dozen extra.



A Handsome Revolving Polished Mahogany Show Stand to Exhibit these Brushes Price 10/6 each; 5/- with ½ gross assorted or gratis with a gross.

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Fig. 58.—Handsome gold and coloured lithographic labels; round cases, one end pull off, other end dredger.

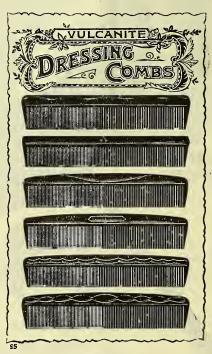
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F. VULCANITE.

 $\frac{1}{2}$ -doz. assorted patterns, $7 \times 1\frac{1}{4}$ in. Per doz., 3/6. 3/- net.



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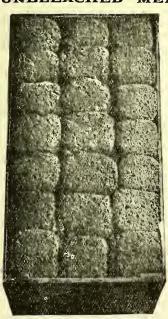
[Telephone: No. 1432 Holborn

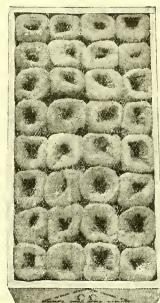
International Sponge Importers, Limited,

Importers, Exporters, & Merchants,

and Chamois Leather Dressers, PRED LION SQUARE, New Warehouses and Steam LONDON, W.C. Bleacheries, 45½ EAGLE STREET, LONDON, W.C. 175 Rue du Temple, PARIS; Piazzetta Barisone 73, GENOA; and Leyendeckerstrasse 13, COLOGNE, EHRENFELD.

COLONIAL REQUIREMENTS SPECIALLY CATERED FOR. The following abridged List will serve as a guide to Buyers when writing. UNBLEACHED MEDITERRANEAN SPONGES IN ORIGINAL







| | HONEYCOMB. | HONEYCOMB. | FINE TURKEY CUPS. | FINE TURKEY CUPS. | FINE TURKEY SOLIDS. | FINE TURKEY SOLIDS. |
|---|--|---|--|---|--|--|
| | Toilet' & Bath. 1st and 2nd Qualities. | 3rd Shape, Toilet & Bath. Largest Sponges | 1st Quality. PICKED SHAPES. | 2nd Quality. | SELECTED SHAPES. | 2nd Quality, large. |
| | Pieces Average in Price per [Case. Piece. | Pieces Average | Pieces Average | LARGE FOR MONEY. | 1st Quality. | LARGE FOR MONEY |
| - | 300 at 4½d. 270 ,, 6d. 200 ,, 8d. 180 ,, 9d. | in Price per Case, Piece, 330 at 2 d. 300 ,, 3 d. 280 ,, 4 d. | in Price per Case. Piece. Toilet Selected. 300 at 1/- | Pieces Average in Price per | In Price per | Pieces Average |
| - | 170 ,, 1/- 160] ,, 1/2 160 1/6 | 250 ,, 6d. 200 ,, 8d. | ., ,, 250 ,, 1/3 ,, ,, 200 ,, 1/6 ,, ,, 175 ,, 1/9 ., ,, 150 ,, 2/- | Case. Piece. Toilet 300 at 9d. | Nursery 400 at 3d. | in Price per Case, Piece, NurserySeltcd.300 at 3d. |
| | 150 l ,, 1/9 140 ,, 2/- 140 ,, 2/6 125 ,, 3/- 110 ,, 3/6 | 160 ,, 1/- 140 ,, 1/3 120 1/6 | , 140 , 2/6 , 100 , 3/- , 90 , 3/6 | ,, 200 ,, 1/3 ,, 180 ,, 1/6 ,, 150 ,, 2/- | 7, 200 ,, 8d. 7, 200 ,, 1/- 8, 150 ,, 1/6 | ,, ,, 250 ,, 4d. ,, ,, 200 ,, 6d. ,, ,, 180 ,, 9d. |
| - | 110 ,, 3/6 95 ,, 4/- 90 4/6 | 100 ; 1/9 90 ; 2/- 80 ; 2/6 60 : 3/- | ,, ,, 80 ,, 4/- ,, ,, 70 ,, 4/6 ,, ,, 60 ,, 5/- ,, ,, 50 ,, 6/- | 90 ,, 3/- 80 ,, 3/6 Bath 70 ,, 4- | ,, 100 ,, 1/9 ,, 100 ,, 2/- ,, 80 ,, 2/6 Bath 50 ,, 3/- | ,, ,, 150 ,, 1/- ,, 100 ,, 1/6 ,, ,, 90 ,, 2/- |
| - | 80 ,, 5/- 75 ,, 5/6 70 ,, 6/6 | 45 ·,, 4/6 30 ,, 5/- | Bath ,, 45 ,, 6/6 ,, 7/6 | ,, 60 ,, 4/6 ,, 50 ,, 5/6 | 36 ,, 4/- 24 ,, 5/- | Bath ,, 70 ,, 2/6 , 3/- , 50 ,, 3 6 |

The above Goods can be had in smaller quantities, or in repacked Cases to suit Buyers' own requirements.

LOOSE GOODS DEPARTMENT. Where Honeycomb, Turkey, and Cuban Sponges—Bleached or Unbleached—are sold in smaller quantities to suit customers' requirements. Large and varied selections always on show at lowest market prices,

Fresh Line, mounted on Handsome Blue CARDED SPONGES. We originated the Carding of Sponges and card of New Design.

We originated the Carding of Sponges and continue to supply the best goods on the market. HONEYCOMB AND TURKEY.

| | Retail | Per gross | | |
|---|--------------------|-------------|--------------|-------|
| | School, ½d., 2 doz | on Card 3/6 | Toilet, 1/6, | ₫ do |
| | ,, 1d., 1 ,, | ,, 7/- | ,, 2/-, | ļ ,, |
| ì | TOILET, 2d., 1 ,, | ,, 14/- | ,, 2/6, | ġ ,, |
| ١ | ,, 3d., 1 ,, | ,, 20/- | ,, 3/-, | \$ 11 |
| | ,, 4d., 1 ,, | ,, 27/- | BATH, 3/6, | 3 11 |
| | | | | |

| $^{\mathrm{R}}$ | etail | | Per | gross |
|-----------------|--------------------|--------|--------|---------|
| TOILET. | $1/6, \frac{1}{5}$ | doz, c | n Caro | 1 120/- |
| | 2/- 3 | | | 168 - |
| 5 | 2/6 1 | " | " | 208/- |
| ,,, | 2/0, 3 | 11 | "91/ | - dez. |
| TD | 0/2, 3 | ,, | | 6 doz. |
| Вати, | 3/0, 3 | 11 | | |
| , | 4/-, 3 | 7.9 | ,,28/ | doz, |
| | | | | |

DOMESTIC CARDED SPONGES. NEW LINE

Larger than Turkey. Soft in Use.

| Retail | Per gr | oss Retail | Per gross |
|-------------------------|--------|--------------------|-------------------|
| TOILET, 3d., 1 do. | | B/- TOILET, 1/-, 1 | doz. on Card 72/- |
| ,, 4d., I ,, | | - L, 1/6, | ,, ,, 108/- |
| ,, 6d., \$,, | ,, 3t | 3/- ,, 2/-, | ,, ,, 144/- |
| ,, 9a., 2 ,, | ,, 99 | l/- l ,, 2/6, | ,, ,, 180/- |

Special Quotations for Wholesale Quantities of Carded Goods.

Sponges of all kinds in Fancy Boxes and on Cards for Counter Display at Lowest Market Prices. Write for our New Illustrated Price List.

All Orders and Communications for 18 & 19 RED LION SQUARE, LONDON, W.C. this Branch to be addressed to

A. S. LLOYD'S EUXESIS

(THE GENUINE.)

For Shaving without Soap, Water, or Brush.



ENTERED AT STATIONERS' HALL.)

A. S. LLOYD'S EUXESIS

FOR SHAVING WITHOUT THE

Use of SOAP or Water.

DIRECTIONS FOR USE.

DIRECTIONS FOR USE.

Unscrew the cap at the top, and gently press the broad end, always taking creto do so from the bottom, by which the tube is rendered perfectly air-tight; when enough is obtained apply it to the heard either with a small soft brush or the finger, rubbing it a little: then apply the razor, and although but little of the Eurkers be seen on the face, the beard will be removed with the greatest ease and comfort. It will be found very beneficial to wash before shaving. It is not intended to make a lather like sonp. When the tube is not muse, be sure to screw on the cap again. is not in use, be sure to screw on the cap again. Sold in Collapsible Tubes, at 1s 6d. and 3s. By the Original & Sole Manufacturer & Proprietor



Sold by all Perfumers and Chemists throughout the World.

R. HOVENDEN & SONS having purchased, under an administration suit, the Business of the late A. S. LLOYD, with the Receipt, Trade-mark, and Goodwill of the celebrated Euxesis, the Trade are cautioned that the original and genuine Euxesis is now manufactured at our Factory ONLY, and may be obtained at either of our Warehouses at the following prices:

10/- per dozen, 9/6 by the 3 dozen, 9/- by the 6 dozen. Retails at 1/6 the Tube; 3/- size to order.

NOTICE.—THE GENUINE A. S. LLOYD'S EUXESIS bears a label printed in BLACK only on a Yellow ground, with our Trade Mark at the bottom, as illustration.

Proprietors: R. HOVENDEN & SONS. LIMITED.

29-33 Berners Street, W. and 89-95 City Road, E.C., LONDON.



"VASELINI

GUARANTEED CHESEBROUGH

This is the line you are LOOKING FOR! The boldest and smartest package ever produced. Two styles of decorated caps and labels to match to select from. Buyer's own name on labels if desired.

The ONLY packers are

Shirley Brothers, Ltd.,

to whom apply for prices.

EVELINA" Hygienic Feeders

are now fitted with a

TRANSPARENT RUBBER BAND TEAT

without extra charge.

On the P.A.T.A., 10½d. 8/- doz. 3 dozen lots, 7/6.

NURSE MARGERY" Hygienic Feeder.

4/6 doz. Each in a box. Fitted with a COOD valve. Best cheap "Hygienic" in the market.

Shirley Brothers, Ltd.,

Whitecross Works, London, S.E., And WITHINGTON, MANCHESTER.

A new Invention of Great Utility.



Original O_{L/V_E} G_{REEN} . $12\frac{1}{2}$ in. \times 10 in. In bottles, 6d. each, in separate neat cartons, with suitable brush

These Dyes are a distinct invention, dying the straw without an objectionable varnished appearance, and producing the effect of new goods.

Colour Works, KENDAL, ENG.

SPECIALISTS IN VIRNISHES, STAINS, DYES, &c.

ESTD. 1878.

Colonial Testimonial—" Your 'Lutons' have really come up to the mark."—Ges. H. Langton, Port of Spain, Trinidad.

A. S. LLOYD'S EUXESIS.

For Shaving without Soap, Water, or Brush.

CAUTION.

The Labels on genuine EUXESIS bear signature of A. S. LLOYD in BLACK INK, and that of his Widow, AIMÉE LLOYD, in Refuse any other. RED INK.

Sole Manufacturers and AIMEE LLOYD & CO. Proprietors:

3 SPUR STREET, Leicester Square, LONDON, W.C.

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).

Stock the articles which your customers require -and will ask for again. Among these

CALVERT'S

Carbolic Tooth Powder

occupies, of course, a prominent position all over the world.

And there is a good demand too for the other specialities, Carbolic Soaps, Ointment, Disinfectants, &c., made by F. C. Calvert & Co., Manchester, England. Illustrated Price List post free

on request.

ENCOURAGE BRITISH INDUSTRIES.

WOODS

(P.A.T.A.)

In Pots and Collapsible Tubes, 6d. and 1s. each. SOLD BY ALL WHOLESALE HOUSES.

Special Terms for £5 from the Proprietors-

W. WOODS & SON, Chemists, PLYMOUTH.

Woods' Areca Nut Tooth Powder, containing all the properties of the Paste, in 6d. and 1s. Tins.

THE POPULAR PROFITABLE PENNY SHAMPOO.

7/- per gross. carriage paid.

> Sample on request.

'FLOROSA' SHAMPOO

sells at first sight.

Each 3 doz. on Attractive Display Card.

HALL, FORSTER & Co., Ltd.,

Elswick Court, Newcastle-on-Tyne.

Brand Makers of Toilet and **Medicinal Soaps**

Manufactured by us so that they reflect credit upon you and your goods.

TOILET SPECIALITIES FOR THE TRADE.

to, ACTON, LONDON, W.

within five minutes' ride of Shepherds Bush and Hammersmith Tube and Railway Stations. Acton Trams and Buses pass the door.

RANDALL &

Manufacturing

Pharmaceutical Chemists,

SOUTHAMPTON

The FLEXA.

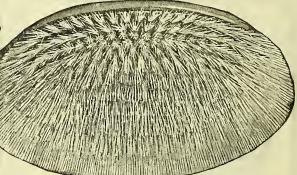
Best Quality Only.



Inventors and Manufacturers

RIGBY BATTCOCK Ld.

LONDON, E.



STIMULATING. PENETRATING.

W. R. TILBURY & CO.'S

IMPROVED HYGIENIC



HACKNEY, LONDO



Makers of Collapsible Tubes and Filling Machines for same. Patentees of Sprinkler and other Stoppers for Perfumes, Washes, &c. Screw Caps.

109 BARTHOLOMEW ROAD, LONDON, N.W.



5, 6 & 7, DENMAN STREET. PICCADILLY CIRCUS, LONDON, W.

Manufacturers' Agent and Druggists' Sundriesman.

TELEGRAMS: "REFRESHING LONDON,"

TELEPHONE, 4711 CENTRAL.

A Few of the Lines that have made our House Famous,

REUTER'S CHINA POTS, with flanged celluloid lids, tall and squat

REUTER'S PERFUME SPRAYS, the largest variety in London.

REUTER'S PATENT ENEMA, admitted to be the best and cleanest in use.

REUTER'S REGISTERED DROPPING TUBE.

REUTER'S "ASEPTUS" FEEDEEZI FEEDING BOTTLE.

The following Testimonial speaks:

May 14th, 1908.

Dear ir.—Below is just what my wife remarked to me to-night as she fed our baby:—I said, "Hold hard a minute, let me put that down," and I scribbled it down at once on this scrap of paper.

"These Feedeezi's are lovely bottles, they don't spoil the shape of his mouth at all; all other bottles do, I think its the special Teat on it that does it."

The above ought to be a good testimonial as it is just my wife's spontaneous expression as she sits feeding our baby. You may use it if you like.

15 Woodstock Road, Croydon.

Yours, J. E. GARRATT.

REUTER'S BOTTLES FOR DISPENSING AND PROPRIETARIES.

REUTER'S MENTHOL, snow white, and absolutely pure.

REUTER'S MANICURE REQUISITES in great variety.

REUTER'S NAIL STONE, the Nulli Secundus of Nail Polishers.

REUTER'S EARTHENWARE BED PANS, URINALS, &c.

REUTER'S CUT-GLASS SALTS JARS, TOILET BOTTLES, &c.

SOLE WHOLESALE AGENT FOR

BAUER & BLACK, CHICAGO.

COTTON WOOL, IN ASEPTIC PACKAGES. SUSPENSORY BANDAGES. ADHESIVE PLASTERS. BELLADONNA PLASTERS. STRENGTHENING PLASTERS.

MULHENS, COLOGNE.

471! EAU DE COLOGNE. RHINE VIOLETS. VIOLETTA GRAZIELLA. MARESCHAL NIEL. TOILET SOAPS OF

EVERY DESCRIPTION.

LIEPZIGER GUMMI-WAAREN FABRIK, LEIPZIG.

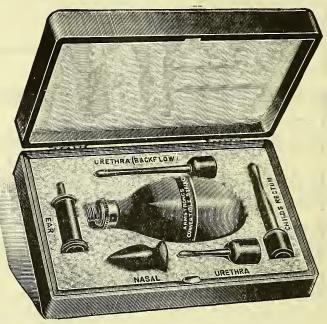
DRUMMOND'S JEANIAN FOOD WARMER. LEATHER'S OZONATORS. LLOYD & LODER'S MASSARGER AND LATHER COMPRESSOR.

- THE -

Doctor's Convertible Syringe

English Manufacture.

Guaranteed to withstand the heat of Tropical Climates.



English Manufacture.

Guaranteed to withstand the heat of Tropical Climates.

In bringing the "CONVERTIBLE SYRINGE" before the public, we would like to point out that it is something new and totally different to any other Syringe that has ever before been placed upon the market.

The facilities of the "CONVERTIBLE SYRINGE" can be seen at a glance. The four mounts for the Nose, Ear, Urethra, Child's Rectum, and also the back-flow Urethra Pipe, can all be fitted to the one bulb, making it really five Syringes in one. Each mount fits tightly to the bulb by simply screwing on, and can be fitted at a moment's notice.

No doctor when visiting patients should be without this combination Syringe, and it is not only essential for doctors, but every mother and nurse should have one in the home as its uses can be tested daily, especially where children are concerned.

Apart from the fact of it being a daily necessity, the one Syringe doing for the five purposes, and all being arranged in a small neat leatherette box, make it very convenient indeed for carrying. The box for the "DOCTOR'S CONVERTIBLE SYRINGE" is lined with satin and beautifully fitted for each mount and the bulb, thus preventing them from getting damaged.

The "DOCTOR'S CONVERTIBLE SYRINGE" is cleanly in use. The bulb can be sterilized by simply boiling, and the quality of the rubber will not be deteriorated thereby.

We advise every enterprising Chemist to write their wholesale house for samples of the "DOCTOR'S CONVERTIBLE SYRINGE" as we are confident that it will meet with a very ready and appreciative sale.

The "CONVERTIBLE SYRINGE" is indispensable to not only Doctors, Nurses, and Mothers, but to tourists, explorers, and all kinds of travellers.

TO CHEMISTS.—If you are unable to obtain the "DOCTOR'S CONVERTIBLE SYRINGE" of your Wholesale House please advise—

MARTIN D. ARMSTRONG, Sole Manufacturer, ASEPTIC WORKS, SUFFOLK ROAD, PONDERS END,

who will give you the names of Wholesale Houses from whom you can obtain same.

This block has done its duty well.

Are you doing yours?

A customer disappointed is a customer often lost.

The Doctor ordered

Mr. A. Watson, of 18 Compton Buildings, Goswell Rd., London, says that his physician advised him to take MIOL in preference to any other body-building, strengthening preparation.

For BRONCHITIS, CHEST COMPLAINTS, LUNG TROUBLES, WASTING and CONSUMPTION.

Doctors recommend MIOL because they have proved it to be of unrivalled efficacy for building up the system. MIOL is a palatable food remedy which agrees with even weak digestions. It not only relieves but cures—swiftly and permanently—when all else fails. MIOL will restore YOU to health.

TEST MIOL FREE!

Simply enclose 3 penny stamps to cover postage and packing, and a sample bottle of MIOL will be sent you by return—FREE. Adress—

MIOL MANUFACTURING CO.,

82 Southwark Bridge Road, London, S.E.



'MIOL' is stocked by all Wholesale Houses at home and abroad, and can be obtained by asking for it.





Showcards & Literature

We have a range of showcards, a 2-ft. carton, the handsomest in the trade, also any quantity of literature and booklets.

Price On the P.A.T.A.

At minimum face value.

 $1/1\frac{1}{2}$ 2/9 4/6

Sold at Face Value.

10/6 27/- 45/- Wholesale per doz,



The MIOL MANUFACTURING CO., Ltd.

82 SOUTHWARK BRIDGE ROAD, LONDON, S.E.

NATURAL ALIMENTATION

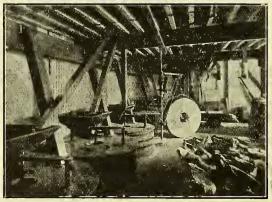
(A "C. & D." description of the preparation of Natural Foods).

THERE is a marked change coming over the dietary of the people of this country. Until comparatively recent years many—perhaps the majority—ate as if they were carnivorous instead of omnivorous animals, in so far as the cereal and vegetable portion of their diet was by far the lesser part. That condition is changing rapidly, and one of those who deserve credit for participating in the influences which have effected the change is Dr. Allinson, whose foodtheories were early appreciated by Mr. Peter Tyrer, a gentleman long connected with the drng-trade. Mr. Tyrer was not content with theorising, but has devoted years to manu-

BRINAX BRIMAA

Dr. Allinson's Food-Mills.

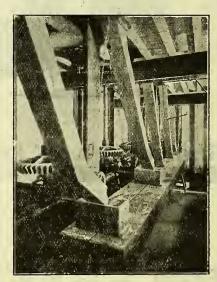
facturing the natural foods suggested by Dr. Allinson, so that the food-mills at Bethnal Green, London, E., are a fine representation of modern methods of treating cercals and other food-bases. These mills, as shown above, are the property of the Natural Food Co., Ltd., and it was under Mr. Tyrer's guidance that a C. & D. representative inspected them and the various stages of food-production. The five-storey building of brick stands back some little distance from Patriot Square. The chief purpose of the mills is the preparation and packing of wholemeal flour and infants'



THE GRINDING-FLOOR.

In the photograph one of the stones is shown as it is taken up by the hoist for re-dressing.

food, with a separate laboratory for the preparation and mixing of vegetable butters and fats. A 60-h.p. suction gas-engine on the ground floor provides power for seven vertical shafts that turn the grinding-stones on the first floor. Mixing-machinery occupies the second floor, and cleaning-machinery the third. Two enormons bins holding the untreated and polished grain occupy the fourth floor, while the grain on arrival is taken to the top floor; whence it takes its devious way downwards. During the process of preparation the food-products are not handled; numerous elevators of chains with small buckets carry the material upwards, while spiral worms rotating in closed conduits convey it laterally. Labonr is saved by gravitation. There are meal sponts and conveyors which carry flour to the packing-rooms. Filling into bags or tins is done in the packing-room from shoots, and the result is that the atmosphere of the factory is surprisingly free from dust. The woodwork is chiefly varnished pitchpine. The untreated grain is freed first from extraneous dust and admixtnres in a cleaning-machine, where discriminating draughts and screens remove the small and broken grains, oats and barley, cockle-seed—



MEAL SPOUTS AND CONVEYORS.

about seven different grades of by-products being thus obtained. The polished wheat is taken to the clean bin, whence it descends by gravitation to be crushed between the rotating stones. A dranght is drawn between the grinding faces to obviate nudue heating and consequent spoiling of the flavour. The crushed grain ascends by clevator to the screening-machinery, which removes the particles of correct size, returning the remainder to be recrushed, the highly resistant bran going to a special pair of stones. The whole cycle is repeated until the whole of the grain is a component part of the meal. Worms convey the finished meal of uniformly fine colour and flavour to packing-shoots, where it is filled into bags or sacks containing from 3½ lb. to 1½ cwt.

The prepared material for making infants' food is ground, then bolted in a screener through fine French silk. It then descends a shoot to the packing-room on the ground floor, where it is packed into paper-lined tins to retail at 1s. and

NATURAL ALIMENTATION



A ROOM ON THE PACKING-FLOOR.

2s. 6d., the latter containing 4 lb. Here girls were busy packing Brunak, a coffee-substitute, with the flavour, odour, and appearance of coffee, and yet free from coffee. The store occupies a portion of this floor, and the neat and orderly arrangement is a tribute to the store-keeper. Mention has been made of the fats produced. These include walnut-butter, a delicious preparation of nut-fats, with a rich flavour and colour of walnuts. Such preparations as this are much liked by vegetarians. There is also made a pure white vegetable-butter, which is half the price of ordinary butter. Attached to the offices at 305 Cambridge Road, Bethnal Green, a few hundred yards from the mills, is a steam-oven, by Messrs. Werner, Pfleiderer & Co., for educational bakery, to show how Allinson wholemeal bread should be made—i.e., without adding chemicals or excessive proportions of yeast, thereby detracting from the natural flavour. Here also is cooked "Power," a rich brown food in granules ready for use and of pleasant taste.

Dr. Allinson's SPECIALITIES.

A LIVING PROFIT ENSURED.

N.B.—The co-operation of Retail Traders is respectfully asked in order that our goods shall not be sold at lower prices than specified hereon; and we have much pleasure in stating that we have already received letters of approval and promises of support in maintaining these prices from the largest Cash Chemists and Drug Stores in town and country.

Dr. ALLINSON says:

"'POWER'

is a splendid food for breakfast or other meals.
It is ready cooked. The flavour is delicious, and
everyone likes it."

In 1-lb. Packets at 7d. each; 5/6 per dozen.

Dr. Allinson's BRUNAK.

The New Drink, instead of TEA or COFFEE, is finding a place in every home. It does not cause nervousness, trembling, wakefulness, palpitation, or flushing, as do tea and coffee. It is as refreshing as tea, as tasty as coffee, as comforting as cocoa, and as harmless as water.

12-lb. Packet (6d.), 5/- doz.; 1-lb. Packet (1/-), 10/- doz.

Dr. Allinson's FOOD FOR BABIES.

| | | | | | EACH | PE | R DOZ. |
|-----|-----------------------|---------------|----------------|------------|----------------------------|-----|--------|
| 6d. | Tins | $(\mathbf{m}$ | $_{ m inimum}$ | retail pri | ce, 5 ½ d.) | ••• | 4/6 |
| 1,- | 1 > | (| ** | ** | 10 $\frac{1}{2}$ d.) | ••• | 9/- |
| 2/6 | ,, | (| 11 | ** | 2/2) | | 21/- |
| 5/- | •1 | (| •1 | ,, | 4/4) | | 42/- |

Dr. Allinson's PREPARED BARLEY.

| | | | | | | | P | ER DOZ. |
|-----|--------------|-----|-----|-------|-------|-----|-----|---------|
| 6d. | $_{ m Tins}$ | ••• | ••• | • • • | ••• | ••• | ••• | 4/6 |
| 1/- | ,, | | ••• | | • • • | | ••• | 9/- |
| 2/6 | | | | | | | | 01/- |

All Dr. ALLINSON'S Specialities can be obtained through the usual Wholesale Houses, or will be sent direct if you are unable to obtain them.

KINDLY NOTE.—If any of our goods are soiled or out of condition from any cause, we trust you will return them to us at once, as we shall be very pleased to exchange them for you free of all cost for carriage, &c.

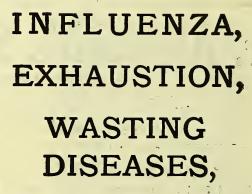
We issue a list of Agents' Addresses, and shall be glad to add yours on receipt of a Postcard.

THE NATURAL FOOD CO., LIMITED,
BETHNAL GREEN, LONDON, E.

BRAND'S ESSENCE OF BEEF

THE SPECIFIC





AND

IMPAIRED DIGESTION.



RECOMMENDED BY THE MEDICAL PROFESSION ALL OVER THE WORLD.

Similar preparations are also made from CHICKEN, VEAL, AND MUTTON.







ADELAIDE.



MELBOURNE.

ON THE P.A.T.A. LIST.



ON THE P.A.T.A. LIST.

For Infants, Invalids, and the Aged.

This delicious, highly nutritive, and most easily-digested Food has been very successfully used in England for many years in the rearing of Infants, and by those whose digestive powers have been weakened by illness or age. It may now be obtained in sealed tins of Chemists, &c., throughout the Colonies and Abroad, and will prove a boon to Mothers and Nurses.

The Lancet describes it as "Mr. Benger's admirable preparation."

The London Medical Record says:—"It is retained when all other foods are rejected. It is invaluable."

The British Medical Journal says:—"Benger's Food has by its excellence established a reputation of its own."

BENGER'S FOOD is sold in Tins at 1/6, 2/6, 5/-, and 10/-, by Chemists everywhere.

LIQUOR PANCREATICUS (Benger). (REGISTERED.)

Containing all the digestive principles of the fresh pancreas. Used to prepare peptonised or partially digested milk and other articles of food. Directions for use with each bottle.

In 4, 8, and 16 oz. Bottles, to retail at 2s. 6d., 4s. 6d., and 8s. 6d.

Benger's Peptonising Powders ("Pulvis Pangreatis Alkalinus, Benger"). Half a powder will peptonise a pint of milk, gruel, beef tea, &c., in a few minutes. Box of Eight Powders, to retail at 1s.

LIQUOR PEPTICUS (Benger).

An exceedingly active fluid Pepsine. DOSE—One of two teaspoonfuls with meals. It is without disagreeable taste.

In 4, 8, and 16 oz. Bottles, to retail at 3s., 5s. 6d., and 10s. 6d.

BENGER'S PEPTONISED BEEF JELLY. A Delicious Quick Restorative.

A concentrated, partially digested, and solidified beef tea, of delicate flavour. Unlike the various Extracts and Essences of Meat, it contains much of the fibrin or flesh-forming element of the beef in solution.

Glass Jars, 2s. each.

BENGER'S PEPTONISED CHICKEN JELLY.

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A Daily Telegraph advertisement.

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MES SMALLBRIDGE writes, December 12th JAMES SMALLBRIDGE vrites, December 12n. "Dear Sirva-1 melecated to say than after receiving eee of your free trial samples of 1 Wingarois," and foding it satisfactory, we purchased a further supply, with very beneficial results. My wife has singe taken a large bottle every week, givining considerable benefit. Last week the chemist from whom I had been purchasing your delicipus, were whom I had been purchasing your delicipus, were not said they were told out, and suggested a not be supply to the purchasing your wife's diregual. Now we have the geouine' Wincernia' signing, we flow it have the geouine' Wincernia' signing, we flow it has done my wife more good than all they put together. We recommend it to allow Infraods."



Contractors to His Majesty's Forces, Royat Army Medical Corps, By Appointment to Their Malesties The King & Queen of Spain

THE FINEST RESTORATIVE

R. FAPRANT write, December this "At the time I arrive for a free sample boule of "Winternia" has suffering from the after-effects of a bad, exhausting attack of Influenza, which left me in a very nervous condition. I felt so much benefit from the freerfal sample that I purchased a further supply of the wine toile, and went in for a thorough eourse of invigoration. I am pleased to state in the result was highly beneficial. I consider, "Wincernia" the very finest resortance state, "Wincernia" the very finest resortance put the properties of the pro

THE WINTER WINE TONIC

Repels Colds, Chills, Influenza, & Pneumonia.

An Ideal New Year's Gift for Those who Need Strengthening.

TO AVOID TAKING COLD.—How often do we hear people say, "Oh, it's only a Cold," and when questioned as to what they are taking to get rid of it, the reply, "Nothing," only emphasises the want of seriousness? It is to be feared that many meet a premature death through "Only a Cold," and the lackadaisical way in which they treat it. The prevalence of Colds among those who ought to "know better" is due, partly to ignorance of the causes of a Cold and of preventive and curative measures, and partly to procrastination and carelessness. Many persons permit themselves to become so tender that when they are exposed to a draught they "take Cold." To overcome such a state of tenderness one has only to take something which will enrich and improve the vital fluid-" the blood," -quicken the circulation, stimulate the heart, strengthen the nervous system and increase the powers of resistance to severe weather. How can it he done? By nothing more difficult than by simply taking delicious "Wincarnis" two, three, or four times a day, according as you can afford it. It will put new life and vigour into you, and that's how you can easily avoid taking cold and influence.

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"Wincamin" is the finest tonic for the nervous system. Its injustar power of rehabilitation is demonstrated by o speedy influsion of nervé force, which quickens the circulation, attenghens the heart, and usuggrates the whole system. Drug nerve tonics very othen do more harm than good-they bring on headachei, drypeprila, and very othen nayor the heart serfousty. "Wincamin" is not a drug tonic. It is sumply the office of the state of the surprise there of making the nurser streets of making the properties of making the properties of the surprise of the s

After Influenza, Mr. J. BECK WITH HUGHES, C.E. School Tregarth, Engor, writes, October 22nd: "Dear Sure—18 grees me great pleasure to bear testimony to the scollent



Refreshing, Bracing, and Strengthening.

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Young gria mostly suffer from Anaemus (blood poverty). Anaemia has been dethough growthy. Anaemia has been dethough the suffer of the suff

The Doctor Advises "Wincarnis."

Sample **Bottle Gratis.**

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Never Fails to Give Satisfaction.

If you don't want the Sample yourself give it to someone who is Weak and Feeble.

Special Notice! The Proprieton of "Watermin are sessions to dermbute as many thousand of price Sample bottles as promise. You have invaried to apply for one yourse we enclose three penny stomps to pay cont of carring and pacifier, in each case.

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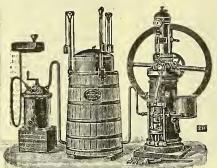
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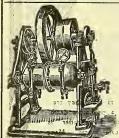
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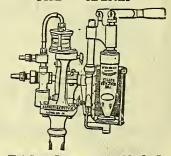
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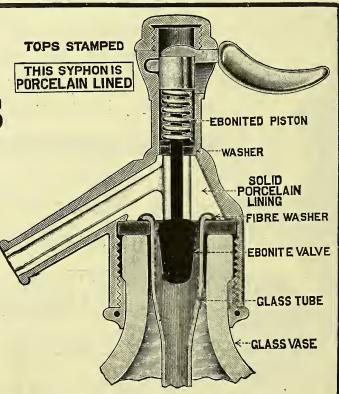
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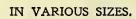
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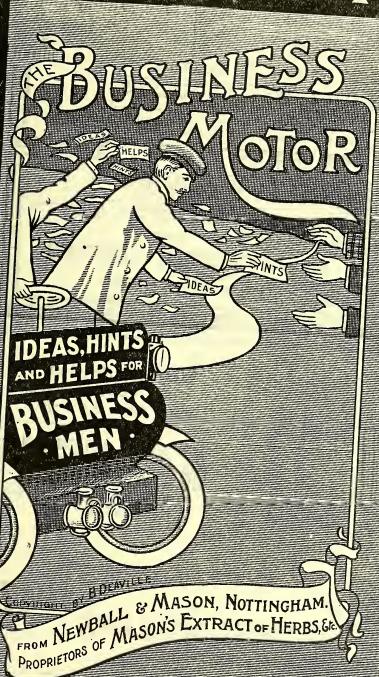
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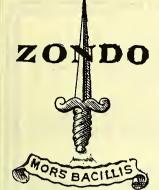
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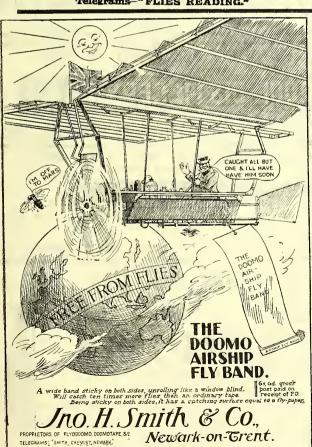
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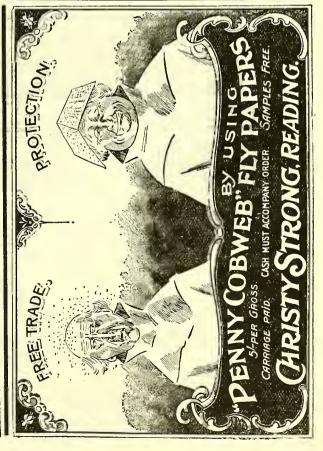
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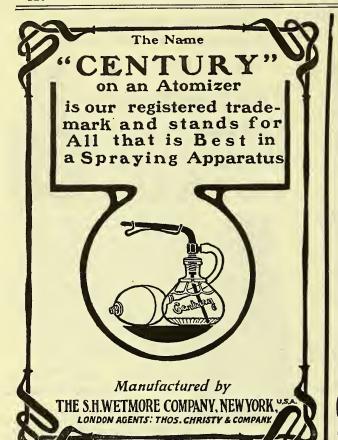
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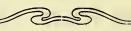
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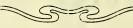
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A liquid essence of Malt, containing the whole of the diastase from carefully selected winter-malted Scotch Barley. It has a diastasic strength many times that of any liquid Malt preparation that we have tested, and it is not high in price.

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|-------|----------|----------------------|------|---------|----|----------------------------|--|
| 1/9 " | HORDINE" | (Liquid Malt) plain, | each | 1/4 | | 12/0 | |
| 2/6 | ** | with Easton's Syrup | | | | | |
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CREAM OF MALT with COD LIVER OIL. GREAM OF MALT with COD LIVER OIL and HYPO-PHOSPHITES. Awarded Gold Medal at the International Congress. Richest in Diastase.

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| 2/6 44 | CREAM OF | MALT" | (plain) | ••• | | 17/8 | |
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| 3/0 | ** | ** | and com | binatio | ns | 26/5 | |
| 5/6 | ** | ** | • | " | 2 | 48/0 | |
| 2/6 | ** | ** | with Co | d Liver | Oil | 17/8 | |
| 4/6 | ** | ** | | ,, | | 33/6 | |
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| 2000 | ,,, | " | ,, | ,, | 2 c.c. | 5/6 |
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| 5000 | , ,, | ,, | ,, | | 5 c.c. | |
| 6000 | ** | >> | , , ,,, | ,, | 6 c.c. | 16/0 |
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| 10,000 | ,, | ** | 39 | ,, | o c.c. | 27/0 |

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Issued in two strengths, in phials of 1 c.c., containing 10,000,000 and 50,000,000 of Bacillus coli communis, at 3/0 and 5/0 each respectively.

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Issued in two strengths, in phials of 1 c.c., containing 200,000,000 and 1,000,000,000 Staphylococci, at 1/0 and 1/6 each respectively.

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Issued in three strengths, in phials of 1 c.c., containing 20,000,000, 200,000,000 and 1,000,000,000 organisms, at 2/0, 3/6 and 6/0 each respectively.

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Issued in phials of o'5 c.c. and 1 c.c., containing 500,000,000 and 1,000,000,000 of Bacillus typhosus, at 1/0 and 1/6 each respectively.

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| EXTRA | | per dozen bottles | 22/0 |
| EXIKA | ر ۲۰ | ber dozen large | 39/0 |
| 31 , | | BEEF AND IRON | 37/0 |
| 33 g | ,, with | per dozen bottles | 28/0 |
| | : -1 | | 20/0 |
| | ,, WILII | CASCARA SAGRADA | 20/0 |
| | • | per dozen bottles | 28/0 |
| " | | CHEMICAL FOOD | |
| | (Pho | osphates Compound) | 0.010 |
| | | per dozen bottles | 33/0 |
| ,,, | ,, with | HÆMOGLOBIN | |
| - | | per dozen bottles | 26/0 |
| . ,, | ,, with | HYPOPHOSPHITES | |
| | per d | lozen bottles 26/0 | Mac. |
| ,, | | large ,, 48/0 | Jon Marie |
| | | IRON | (45) 6 |
| " | | lozen bottles 24/0 | (:5-6) |
| | with- | IRON AND | |
| " | OUIN | INE CITRATE | 7/3 |
| | Don d | lozen bottles 33/0 | V |
| | per u | IRON IODIDE | A |
| 91 | ,, with | James battles 20/0 | and the |
| | pera | lozen bottles 28/0 | |
| 37 | | IRON, QUININE AND | |
| | STR | YCHNINE (EASTON) | 00'0 |
| | -4 | per dozen bottles | 33.0 |
| 11 | | PEPSIN ,, ,, | 28/0 |
| 33 | ,, with I | PEPSIN & PANCREATII | |
| ā. | A | per dozen bottles | 28/0 |
| ,, | ,, with | Phosphorus ,, | 28/0 |
| 'KEPLER' | SOLUTION | N (OF COD LIVER | |
| OIL IN | | EXTRACT) | |
| 'KEPLER' | | y per dozen bottles | 22/0 |
| | | er dozen large ,, | 39/0 |
| 39 | ,, with | CHEMICAL FOOD | 27/0 |
| " | | osphates Compound) | |
| | (1 11) | per dozen bottles | 33/0 |
| | i+1 ₂ | Hypophosphites | טוככ |
| 99 | " WITH | Tree dozen bettler | 2610 |
| | | per dozen bottles | 26/0 |
| 99 | ** | per dozen large,, | 48/0 |
| 21 | ,, with | IRON IODIDE | 0010 |
| | | per dozen bottles | 28/0 |
| 99 | ,, with | PHOSPHORUS | 0010 |
| | | per dozen bottles | 28/0 |
| For Form | ulæ, etc., s | see B. W. & Co. Price | e List |
| | | | |

"'HAZELINE' SNOW"

(TRADE MARK)

Customers know **

That "'Hazeline' Snow" is an elegant preparation for the skin.

That it removes roughness and redness, keeps the skin soft and supple, and preserves the complexion from the effects of exposure to sun, wind and dust.

That it is delightful to use: being neither sticky nor greasy.

That it retains its pleasing consistency and freshness to the last.

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That "'Hazeline' Snow" is a highly creditable example of the Pharmacist's art.

That it does not undergo changes which render it unsaleable or, cause, annoyance to customers.

That it is produced in an artistic style which is in keeping with the most refined surroundings.

That no effort of persuasion is required to sell it.

That it is profitable, convenient and perfectly satisfactory.

Supplied to the trade, in glass pots, at 11/0 per dozen

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It is highly esteemed, sells readily, and is extensively prescribed.

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at 11/0 per dozen; also in collapsible
tubes, at 6/0 and 10/0 per dozen

BURROUGHS WELLCOME & Co., LONDON (ENG.)

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TRADE 6 VAPOROLE' BRAND PRODUCTS

for Hypodermic Injection, Inhalation, etc.

A wide range of medicaments of exceptional purity, uniformity and efficiency, so presented as to ensure stability, accuracy and convenience of administration.

FOR HYPODERMIC INJECTION—

Issued in hermetically-sealed phials, in boxes of 10

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- ,, Caffeine Sodio-benzoate, 0.25 gm. Sterilised solution [1 c.c.]
- " Camphor, 0.1 gm. Sterilised solution in olive oil [1 c.c.]
- o o gm. and o o gm.
 Sterilised solution [1 c.c.]
- , Digitalin (Crystalline),

 0.0001 gm. Sterilised solution [1 c.c.]
- " Eucaine Lactate, 0.01 gm. Sterilised solution [1 c.c.]
- ", 'Hemisine' and Eucaine Lactate. Sterilised solution [1 c.c.]
 - P. 'Hemisine' ... 0.00016 gm.
 Eucainæ Lactatis... 0.022 gm.
 Aquam ... ad 1 c.c.
- " Hyoscine Hydrobromide, 0.0005 gm. Sterilised solution [1 c.c.]
- ,, Morphine Hydrochloride, 0.01 gm. and 0.02 gm. Sterilised solution [1 c.c.]
- o 4 gm. Sterilised solution [1 c.c.]
- , Strychnine Sulphate, 0'001 gm. and 0'002 gm. Sterilised solution [1 c.c.]

G 2661

'VAPOROLE' BRAND-

'Hemisine' (Trade Mark) 1 in 1000. Sterilised solution [0.5 c.c.], boxes of 12

Supplied to the trade at 30/0 per dozen boxes

" Extract of Infundibulum, 2 %

Sterilised solution [1 c.c.],
in boxes of 6

Supplied to the trade at 36/0 per dozen boxes

solution [1 c.c.], boxes of 10

B. Ferri Citratis Viridis 0.05 gm.
Sodii Arsenatis ... 0.002 gm.
Aquam ... ad 1 c.c.

Supplied to the trade at 24/0 per dozen boxes



(Actual size) Registd. design

FOR INHALATION-

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,, Amyl Nitrite, min. 3 [0·18 c.c.], in boxes of 12

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Supplied to the trade as follows: min. 3 and min. 5, at 24/0 and 30/0 per dozen boxes respectively

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Convenient for purse or pocket. Sells readily to doctors, nurses, travellers and others, for emergency use in cases of fainting.

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Pharmacists have a perfectly reasonable and well-founded predilection in favour of chemicals in crystals rather than in powder, on account of the greater chemical purity thus often obtained. At the same time, a powder is much more convenient for weighing and dissolving, though some of this convenience disappears if the powder have a tendency to "cake."

Potassium Citrate
Sodium Citrate
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(supplied in the form of neutral non-deliquescent crystalline powders) and

Sodium Sulphate Sodium Phosphate

(supplied in the form of small, so-called "feathery" crystals) combine the best advantage of both forms. They combine the greatest convenience in dispensing with the very highest degree of chemical purity.

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THE CHEMICAL AND DRUG TRADES and of BRITISH PHARMACISTS THROUGHOUT THE EMPIRE.

FIFTIETH YEAR OF PUBLICATION.

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| Ph.D. 197 | Kent; N.E. Lancs 160 |
| Leeches | Portsmouth; Leeds; Bradford; Liverpool; Teesside; Exeter; North Kent; N.E. Lancs 160 Cardiff |
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For Thursday's Markets and other News see the Coloured Supplement.

OUR SUMMER ISSUE falls to be published on July 31, 1909. It will be the Jubilce number of the C. & D. The Editor will be glad to hear from any readers who remember the publication of the first number in 1859.

THE NEW POISONS SCHEDULE. WE have in the press a card showing on the front page the Schedule of Poisons and other poisons provisions which will come into force on April 1; on the back is a supplementary list of poisons. The card will be eyeletted to hang up. Price 4d. net per copy, or post free for nine halfpenny stamps from the C. & D. office, 42 Cannon Street, London, E.C.

Summary.

First glance at the Contents in the column opposite. There are so many good things in this number that we cannot men tion all in this column.

More about bankruptcy-law reform on p. 136.

HAVE YOU proper books of account? The article on p. 181 will tell you.

MRS. F. A. DEGEN tells how to advertise proprietary medi-

cines as she has done it (p. 185). A Dozen Pictures from South Africa embellish a travelling

correspondent's letter on pp. 172-174.

Newspaper-advertising of a proprietary is the subject of Mr. T. Russell's article this week (p. 159).

THE ACETIC-ACID PATENT, No. 3477 of 1895, has been held by Mr. Justice Warrington to be invalid (p. 142).

A CITY CHEMIST'S ASSISTANT who sold prussic acid to a boy explained the circumstances in the Coroner's Court (p. 137).

Ampoules are becoming more frequently ordered in prescriptions. Dispensers should study the excellent article about them on p. 169.

PROPRIETARY MEDICINES are being considered by the O.R.C. Medical and Pharmacy Council. The text of the report is given on p. 140.

Messrs. Parke, Davis & Co.'s works at Hounslow have been described as "a laboratory in a garden." See the article on p. 176.

M. THIBAULT, the new Vice-President of the Paris Pharmaceutical Society, has been interviewed by our Paris correspondent (p. 139).

GAS AND GAS-LIGHTING are dealt with on pp. 186 and 187, the second article being a comprehensive one on the lighting of chemists' shops.

THE FIRST OF A SERIES of illustrated articles by Mr. W. Maskew on old books pertaining to chemistry and pharmacy begins on p. 192.

Messes, Burgoyne, Burbidges & Co.'s new chemical and pharmaceutical factories at East Ham are illustrated and described on p. 165.

RHAMNUS PURSHIANA may be grown in Britain, the climate having been found suitable, so we may yet harvest our own cascara sagrada (p. 156).

TRADE in agricultural preparations and seeds should be cultivated by chemists, who will find good advice in the article on pp. 182 and 183.

DENTISTS have succeeded where chemists failed, Mr. Justice Swinfen-Eady having ruled that companies cannot use Dentists Act titles (pp. 143 and 154).

A Worcester Firm of chemists continued the use of the Royal Arms—a privilege granted to their predecessors—and have submitted to an injunction (p. 142).

THE WORD "PHARMACY" and its proposed use by pharmacists only bring us observations by "Xrayser" (p. 153) and letters from Mr. Lord Gifford and others (p. 206). (p. 153)

and letters from Mr. Lord Gifford and others (p. 200).

The Drug and Chemical Markets are by no means active, and the tone is flat. Quinine sulphate is ½d. lower from makers, and the Messina essences are still offered at irregular but again lower prices. Ergot, menthol, and mandrake are firmer. Foreign citric acid, cod-liver oil, lime oil, lime and lemon juice are casier. Copper sulphate and shellac are lower. A full report of the auctions of first-hand drugs appears in our Coloured Supplement (p. 203).

 \mathbf{F}

Corner for Students.

CONDUCTED BY LEONARD DOBBIN, PH.D.

Students, please note. All communications should be addressed to the Editor of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

All communications and reports must bear the names and addresses of the writers, not necessarily for publication. The reports of those who ignore this rule are liable not to be dealt with.

THE powder distributed to students on January 5 contained one part by weight of zinc hydroxycarbonate, one part of zinc sulphide, and three parts of potassium sulphate. The calculated composition of such a mixture

| Zn | | | | | | 24.9 |
|-----------------|-------|---------|---------|-----|---------|-------|
| K | | | | | | 26.9 |
| CO ₃ | | | | | | 3.5 |
| S | , | | | ••• | | 6.6 |
| So. | | • • • • | | | | 33.1 |
| OH | | | | ••• | • • • • | 4.0 |
| | | | • • • • | | | 1.0 |
| H_2O | | • • • | • • • • | ••• | | 1.0 |
| | | | | | | |
| | | | | | | 100.0 |

The powder also contained, as impurities, distinct traces of manganese and of ammonium, a slight trace of iron, and a very faint trace of the hydrochloric radical.

Samples of the powder were distributed to 63 students, and 41 reports were sent in for examination. All of our correspondents were successful in detecting the presence of potassium and of the sulphuric acid radical. The failures in the detection of the other main constituents of the powder were: (a) Metallic radical—Zinc, 1; (b) Acidic radicals—Carbonic, 18; hydrosulphuric, 4. The trace of manganese was overlooked by 20 students, while 23 failed to detect the trace of ammonium.

On the whole this month's exercise caused little difficulty to students, so far as the main constituents of the powder were concerned, and our scores are again high. Indeed, we have seldom experienced so much difficulty in balancing the merits of the best six or eight reports as on the present occasion, minute points of detail having had to be considered in making the usual awards.

By the application to the powder of tests which might all be described fairly as "preliminary," several students obtained indications of the presence of all its main constituents and of the two chief impurities, and, with this information in hand, confirmation in the systematic analysis was exceedingly simple.

In quite a number of cases the powder was described as insoluble in water, one student stating most circumstantially that on boiling a portion with water, filtering, and evaporating the filtrate to dryness, no residue was left. Seeing that 60 per cent. of the powder consisted of potassium sulphate, this apparent evidence of total insolubility is highly remarkable. Apart from a positive error of this kind, however, it is too common a type of inaccuracy to describe a substance as "insoluble" merely because it is not wholly soluble in water, and without taking any steps to ascertain whether it is partially soluble or not.

There were very few students who did not observe that, while the powder dissolved completely in dilute hydrochloric acid, hydrogen sulphide was evolved during the dissolution; but of those who noted this fact only a very small number realised that it was futile to test the acid solution, later, for metals of the copper and arsenium groups by means of hydrogen sulphide. Will those who unthinkingly followed the cast-iron directions of "the chart" on this occasion ponder this point, and try to realise

that qualitative analysis affords many opportunities for exercising the reasoning faculties, quite apart from ascertaining the constituents of substances?

There was only a very small quantity of manganese in the powder, and it was overlooked by almost one-half of our correspondents. Nevertheless, the delicate dry-way test with sodium carbonate and potassium nitrate, or the lead peroxide and nitric acid test, gave most distinct indications of its presence, and numerous students confirmed manganese by applying one or other of these tests, sometimes after and sometimes without having got slight reactions in the systematic examination which led them to suspect that it was present.

The trace of ammonium was readily detected when steps to ensure delicacy in testing for it were carefully taken. Those who failed to find it should practise upon mixtures containing 0.5 per cent. or less of an ammonium salt until they are able to detect it with certainty.

The numerous failures to detect the presence of a carbonate indicate that sufficent delicacy is not attained in applying the test for carbonic anhydride with lime-water or baryta-water. A few students failed to recognise the evolution of carbonic anhydride because, having detected hydrogen sulphide they omitted to test for any other gas; but the majority of the failures were not attributable to this cause.

Several students reported the presence of a sulphite and gave evidence in support of this. After the complete precipitation of the sulphuric-acid radical by the addition of excess of barium chloride to a solution slightly acid with hydrochloric acid, and the removal of the precipitate by filtration, chlorine-water or bromine-water was added to the filtrate and a further precipitate was obtained which was regarded as due to the oxidation of sulphurous to sulphuric acid. We believe the further precipitate was owing to the presence of sulphuric acid in the chlorine or bromine water used, both of these reagents being very liable to contain some sulphuric acid as impurity, unless measures have been adopted to preclude its presence.

PRIZES.

The first prize for the best analysis has been awarded to William John McGray, 15 Exeter Street, Pallion, Sünderland.

The second prize has been awarded to

George Harding, 11 Grey Street, Newcastle-on-Tyne.

First Prize.—Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a arst prize.

Second Prize.—Any scientific book which is sold for about five shillings may be taken as a second prize.

The students to whom prizes are awarded are requested to write at once to the Publisher naming the book or books they select.

MARKS AWARDED FOR ANALYSES.

| 1. Correspondents | who are | unqualified: | |
|-------------------|---------|-------------------|----------------|
| Wm. John McGray | (1st | Strophanthin | 81 |
| prize) | 98 | T. G. N | 81 |
| George Harding | (2nd | Ager | 79 |
| prize) | 97 | Crypton | 78 |
| Convolvulus | 96 | FeCL ₃ | 7 8 |
| Telescope | 96 | Victor | 78 |
| Validol | 96 | Cathildol | 77 |
| Equus Niger | 95 | L. G. F | 77 |
| Polychrest | 95 | Nixus | 77 |
| Double Seidlitz | 93 | Resorcin | 76 |
| Jelloid | 93 | Technical | 76 |
| Adac | 90 | Na | 75 |
| R. V. W | 90 | Sandonian | 72 |
| Duorts | 89 | Palatine | 71 |
| Siliqua | 89 | Alfred E. Gates | 70 |
| Astolat | 87 | S. V. M | 68 |
| Kalium | 87 | Rainow | 66 |
| Pharmacy | 82 | Test | 61 |
| Chromium | 81 | | |

2. Correspondents who are qualified, or who have not indicated that they are unqualified:

| A. F. M | 97 | Capsicum | | 91 |
|---------------|--------|----------|------|----|
| | | Chemicus | | 94 |
| Boiling-point | 83 | Turmeric | | 94 |

To Correspondents.

TELESCOPE.—Since the powder gave off hydrogen sulphide on being dissolved in dilute hydrochloric acid, and you further treated the warmed solution with hydrogen sulphide, the chance of an arsenate remaining undetected because unreduced was remote.

VALIDOL.—Apparently you added calcium chloride to a solution of the powder in hydrochloric acid in testing for an oxalate, overlooking the fact that calcium oxalate is soluble in hydrochloric acid.

EQUUS NIGER.—You report the addition of lead acetate to a portion of the sodium-earbonate extract (after aeidifying with acetie acid) to have produced a black precipitate of lead sulphide; but no such reaction took place, as the sodium earbonate extract did not contain any sulphide—a fact which you had already proved yourself by adding silver nitrate to a portion of it (after aeidifying with nitrie acid) and not obtaining a black precipitate of silver sulphide.

DOUBLE SEIDLITZ.—Note that chlorine and hydrogen sulphide would not be evolved side by side on heating a powder with concentrated sulphuric acid; note also that hydrochloric acid, and not chlorine, is the product of the action of concentrated sulphuric acid on chlorides, unless in the presence of oxidising agents.

JELLOID.—Nessler's reagent is not an appropriate test for ammonia when applied as you applied it.

R. V. W.—You included a carbonate among the substances found, but gave no conclusive test proving its presence. Fusion of a precipitate with sodium carbonate and potassium nitrate forms a very much more delicate test for manganese than the borax-bead test.

DUDRTS.—The form of your report is quite satisfactory, but it is not necessary to enumerate in a special summary the metallic and acidic radicals which have been proved absent.

SILIQUA.—In the known presence of a sulphide, the presence of carbonic anhydride in the gases evolved on treating the powder with dilute sulphuric acid should have been most carefully established; the mere observation of effervescence was insufficient, since the effervescence might have been due to hydrogen sulphide alone. The precipitate which you mistook for calcium oxalate consisted of ealcium sulphate, and the decolorisation of dilute potassium permanganate-solution was due to the small quantity of manganous salt present in the powder.

ASTOLAT.—You refer to testing for sulphites in a solution which had been boiled for some time with hydroehloric acid: only minute traces of sulphurous acid could remain after that treatment

Chromium.—Concentrated hydroehloric acid must not be used to test the solubility of a precipitate supposed to consist of barium sulphate. Read also the concluding words of the reply to "Siliqua."

STROPHANTHIN.—It is a particularly unsatisfactory proceeding to test for potassium by means of hydrochloro-platinic acid, in the original hydrochloric-acid solution of a powder which contains metallic radicals belonging to a variety of analytical groups.

T. G. N.—When a report is systematically draw up, there is little to choose between column and paragraph form. You should omit equations from your reports.

AGER.—The following method for the detection of chloride in presence of bromide or iodide, or of bromide and iodide, was printed in this column a few years ago: In the known absence of cyanide, completely precipitate the halogens by adding excess of silver nitrate in presence of nitrie acid, and wash the precipitate several times by decantation. Then pour upon it 1 c.c., or less, of a very dilute solution of potassium iodide (1 in 1,000), add a few drops of dilute nitric aeid, digest in the cold for an hour, with occasional shaking, and filter. Divide the filtrate into two parts, and add silver nitrate to the one part and a drop of chlorine-water to the other. If the silver nitrate produces a white precipitate, and the ehlorine-water does not liberate either bromine or iodinc, then (in the absence of cyanide) the original precipitate contained silver chloride. The action of the potassium iodide on the silver chloride results in the formation of silver iodide and potassium chloride: AgCl+KI=AgI+KCl. If there is enough silver chloride present in the original precipitate, all the potassium iodide is used up, and it is the potassium chloride formed which gives the white precipitate on the addition of silver nitrate. If the chlorine water liberates bromine or iodinc, this shows (when not more than I c.e. of the

1 in 1,000 potassium iodide was used) that distinctly less than 1 milligramme of silver chloride (and probably none at all) was present in the original precipitate of silver halide.

FeCL₂.—This should be FeCl₃; also NA₂CO₃ should be Na₂CO₃. Keep in mind the (true) story of the student who stated, in answering an examination question, that phosgen, COCl₂, was prepared by dissolving eobalt in hydroelloric acid. Read the first sentence of the reply to "Chromium."

RESORGIN.—Note that it is exceedingly difficult, as a rule, to obtain metal films from sulphides, without previous oxidation of the latter. You have stumbled badly in recording reactions observed in testing the sodium-carbonate extract for a sulphide. Read the reply to "Equus Niger."

Na.—The account of your testing for acid radicals is imperfect: you report the addition of a number of reagents to "separate portions of solution," but give no indication as to how the "solution" was obtained or as to whether it was acid, alkaline, or neutral. Apparently you did not test for ammonium salts.

Sandonian.—The gas evolved on heating the powder with dilute sulphuric acid had the odour of hydrogen sulphide—not of sulphurous anhydride—and this indicated the presence of a sulphide—not of a sulphate.

S. V. M.—The odour which you mistook for acetic acid was really due to sulphurous anhydride: this is a very common mistake, but your confirmatory tests for an acetate were furnished by a too ready imagination.

Test.—As the powder contained about 0.2 per cent. of manganese and nearly 25 per cent. of zinc, your failure to detect the latter in the systematic examination for metallic radieals, while you detected the former, is remarkable. You applied Carnot's test for potassium at the wrong stage in your analysis. Compare the reply to "Strophanthin."

BOILING-POINT.—You state that the portion of the powder which you used in testing for halides was dissolved in nitrio acid, and that the solution was well boiled prior to adding silver nitrate. This treatment was not very safe, since chlorine, etc., might have been expelled more or less completely during the boiling.

Business Changes.

Properly authenticated business notices (not being advertisements) are inserted in this section free of charge if promptly communicated to the Editor.

Mr. W. Neill, chemist and druggist, has disposed of his business at 5 The Parade, Dagenham.

LAWRENCE'S DRUG-STORES have been opened at 134 Goldhawk Road, Shepherd's Bush, London, W.

MR. WILLIAM FALCONER, chemist and druggist, has taken over the business of Mr. Robert Smith at 128 High Street, Lochee, Dundee.

Mr. R. H. Huggins, chemist and druggist, Wain tet, has acquired the business of the late Mr. J. H. Wilkmon, chemist, at 15 Church Street, Colne.

Messrs. Nixon & Co. will transfer their business, after February 1, from 62 Leadenhall Street, E.C., to 16 Queen Street, Edgware Road, London, W.

Mr. James Chalmers, chemist and druggist, her jurchased the business of Messrs. William Hay & Sons, at Alford, of which he has been manager for a number of years.

Messes. F. E. Symonds & Co., 9 Mincing Lane, London, E.C., announce that on and after February 1 the best ess will be carried on by Mr. Albert Edward Carey, who has been with the firm for the past twenty years.

MESSRS. BAISS BROTHERS & STEVENSON, LTD., Jewly Street, London, E.C., intimate that Messrs. Davisson & Co., Edinburgh, have relinquished their agency for Scotland, and Mr. J. E. Grey, 39 Marchmont Crescent, Edinburgh, has been appointed their sole agent for Scotland.

Messrs. R. H. Brittain and E. W. Theakston have taken over the business of Messrs. Prichard & Constance at 64 Haymarket, London, S.W., which was established in 1831. Mr. Theakston is a pharmaceutical chemist with an extensive London experience, including five years at Dinneford's, while Mr. Brittain (the President of the C.A.A.) is a chemist who, in addition to having been an assistant with Mr. Martindale, has enjoyed a varied experience in London establishments and learnt French pharmacy on the Riviera.

English News.

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Brevities.

A horse backed a cart through the plate-glass window of the pharmacy of Mr. Walter Marchant, chemist and druggist, 36 High Town, Hereford, on January 23.

Mr. J. A. Foster, F.I.C., has been appointed public analyst to the East Riding (Yorks) County Council. Mr. Foster obtained the post of Grimsby town analyst about four months age.

An outbreak of fire originated in an upstairs room at the premises of Mr. Wm. Crompton, drysalter, 162-164 Bolton Street, Bury, on January 24. The damage done is reported to amount to over 1,000%.

The Grimsby Chemists met the Grimsby Tradesmen in a football match, on the latter's ground, on January 21. The teams proved to be evenly matched, the game resulting in a draw of four goals each. The goal-scorers for the Chemists were Brown, Osborne, Seaton, and Wetherall.

Institute of Chemistry.

Nineteen candidates presented themselves in the Intermediate examination in January, of whom the following eleven passed: Messrs. M. S. Baker, R. Boyd, W. G. Carey, H. S. Coupland, S. E. Crook, H. R. Lyell, A. Marcan, G. S. McKee, F. J. L. Petri, J. Shelton, and N. Garrett Smith. For the Final Associateship examination, of eight candidates in mineral chemistry three passed—Messrs. T. W. Harrison, J. R. Hill, and N. M. Hyslop; in metallurgical chemistry two were examined, and Mr. Charles Salter passed; in organic chemistry eight entered and six passed—Messrs. H. T. Clarke, H. Davies, J. G. Hay, V. J. Harding, G. Hogan, and J. H. Ryffel; in the chemistry of food and drugs, etc., out of nine candidates four passed—Messrs. W. Bacon, B. S. Evans, O. J. Patrick, and V. J. Tilley. Messrs. W. Bacon and J. H. Ryffel were examined for the Fellowship.

Bankruptcy-law Reform.

The President of the Board of Trade has caused an intimation to be conveyed to the Association of Chambers of Commerce of the United Kingdom and the Association of Trade Protection Societies that he is willing to receive on February 10 a deputation in regard to the question of bankruptcy-law reform. Quite recently the matter was thoroughly investigated by a Departmental Committee, which presented a number of valuable recommendations to the President. As a matter of fact, a Bill embodying some of the principal of these recommendations has already been drafted by the officials of Mr. Churchill's Department, and little surprise would be expressed if the intention of the Government to present legislation on the subject were to figure in the Speech from the Throne at the opening of Parliament next month. One of the chief points to be dealt with in any such legislation is the position of the undischarged bankrupt, in regard to whom the Committee made the recommendation that it should be a criminal offence for him to obtain credit for more than 101. without disclosing the fact of his bankruptcy, or to trade under an assumed name unless a full disclosure were made.

Birmingham Notes.

Amateur gardeners are just now asking for "muriatic acid," because the local weeklies in their garden gossip suggest that "if the mixture does not fizz and bubble freely the soil is in need of lime."

In our mention of Mr. Robert Chase's exhibit of birds at the Midland Institute conversazione last week, the actual relationship to Mr. Whitmore Peck was reversed, Mr. Chase, who is a well-known brush-manufacturer (scc p. 162), being the nephew.

Mr. Marshall Freeman and Mr. Tunbridge are engaged on a Draft Amendment Bill to the Merchandise-marks Acts, 1887 and 1908, on behalf of the Birmingham Chamber of Commerce, in which it is desired to do away with anomalies of the law pertaining to patents. At the smoking-concert of the Midland Section of the Society of Chemical Industry, held at the White Horse Hotel, Birmingham, on January 22, an ample programme was provided, including songs, glees, recitals, and impressions from various plays and authors. Professor Frankland proved an admirable Chairman, although he said it was a new experience for him, and during the interval he read an abstract of a paper discovered at Cambridge, and which settled the vexed question of the authorship of the Shakespeare plays. It proved to be the "Analytical Chart" à la Shakespeare: "Pb or not Pb, that is the question," and so on. A goodly number of public analysts, their assistants works and other chemists, including consultants, attended the "smoker."

Sale of Food and Drugs Acts.

The Woolwich public analyst reports that a sample of camphorated oil he examined was 8.9 per cent. deficient in camphor. The offender is to be cautioned.

The Poplar borough analyst during the December quarter examined two samples of olive oil and one each of arrowroot, ginger, glycerin, compound powder of jalap, and compound tincture of camphor, which were all genuine. Of the total of 394 samples analysed during the year 8.6 per cent. were adulterated. In 1907 the percentage of adulterations was 7.3 per cent.

The Hertfordshire county analyst (Mr. A. E. Ekins) reports that during last quarter three samples of camphorated oil, two of compound liquorice powder, and one each of seidlitz powder, sweet spirit of nitre, Epsom salt, olive oil, and ground ginger were analysed. All of them proved to be genuine, with the exception of the sweet nitre sample, which was 40 per cent. deficient in ethyl nitrite. The vendor was fined 1s. and 6s. 6d. costs.

The East Riding (Yorks) analyst reports that of six samples of sweet spirit of nitre examined during the quarter five were not up to standard, being 12, 21, 26, 55, and 35 per cent. respectively deficient in ethyl nitrite. The vendor of the first sample was cautioned, and prosecution is pending in the three next instances, while the vendor of the last sample was fined 5s. and 3s. costs. Of three samples of paregoric one was found to be devoid of opium. The vendor was fined 1s., without costs.

Contracts.

Brightlingsea Urban Council.—Mr. Colin F. Aldrich, for disinfectants.

Blackburn Guardians.—Messrs. Oldfield, Pattinson & Co., Manchester, for the supply of drugs during the ensuing year. Six tenders were sent in.

Brentford District Council.—Messrs. W. Caudery & Co., for the supply of 25 tons of alumino-ferric, at 2l. 15s. per ton. Messrs. Tennant & Sons tendered at the same price.

London County Council.—The Gas Light and Coke Co., for 3,300 tons of proto-sulphate of iron, at 32s. per ton, delivered at the Barking jetty. The Council agreed to accept the delivery partly in crystals and partly in liquid state. Messrs. T. Herschel Jones & Co. (at 32s. 6d.), D. Matthews (at 33s. 9d.), and J. James & Son (at 38s. per ton plus 5 per cent. commission, and for 1.000 to 1.250 tons only) were unsuccessful tenderers. Messrs. H. D. Pochin & Co., Ltd., tendered at 37s. 6d., and Messrs. C. J. Schofield, Ltd., at 42s. 6d. per ton, for the supply of ferric sulphate, but neither of the tenders was accepted.

Sheffield Notes.

Mr. H. Antcliffe, chemist and druggist, was elected as representative of Sheffield Union on the Committee of Management at the annual meeting of the South Yorkshire Branch of the National Poor-law Officers' Association, Incorporated, held at Rotherham on January 23.

The monthly meeting of the members of the Sheffield Branch of the National Association of Medical Herbalists was held at the Vegetarian Restaurant on January 21, Mr. Thos. Tildesley presiding. The Chairman gave a short history of the star-anise fruit and the cup moss, samples of which he had brought with him, with an explanation of their properties and uses. The next meeting is to be held at Doncaster.

Suspected Poisoning.

At the inquest respecting the death of Deborah Bernstein (60), theatrical dresser, the evidence showed that a bottle of eye-lotion was found by the bedside, and it was shown that deceased had lost her situation owing to failing eyesight. The Coroner adjourned the inquiry for analysis of the stomach-contents, as Dr. G. R. Williams was of opinion that the cardiac failure and asphyxia of the deceased was due to belladonna or atropine poisoning. Mr. Wallis S. Lovegrove, manager of Park's Drug-stores, 18 Shepherd's Bush Green, deposed to making up the lotion for deceased from a prescription, but it contained nothing poisonous—only boric-acid solution and orange-flower water. It was also stated that some tablets were found on deceased which she had brought from the nursing home at which she had been operated upon for cataract.

Grocers and the Poisons and Pharmaey Act.

Mr. A. J. Giles, Secretary of the Grocers' Federation, at the Rotherham Grocers' annual dinner, held on January 21, stigmatised the Poisons and Pharmacy Act as an example of sentimental legislation. He stated that the Act took away from the holder of a patent-medicine licence the privilege of selling soothing-syrup, but gave power to persons to sell highly poisonous sheep-dip or weed-killers.

At a meeting of the Management Committee of the Birmingham Grocers' Association, the Chairman, in reply to a question, said that several mixtures which some grocers sold came under the new Poisons Act. He did not think that patent medicines were very largely sold by grocers in Birmingham. The Chairman also said no communication had been sent to Dr. Hazel, M.P. for West Bromwich, with reference to the Act, as such a reply was received from him on the last occasion that he did not think they could with any dignity again approach him, nor could they ask for rebuffs.

Sale of Prussie Aeid.

At the City of London Coroner's Court on January 25, Dr. F. J. Waldo conducted an inquiry into the death of Alfred E. Methuen (19), who committed suicide by taking prussic acid. It was stated that deceased was a quiet and cheerful boy, free from financial or love troubles, and after evidence had been given as to the manner and cause of the youth's death, Mr. Reginald J. Healey, chemist and druggist, was called. Mr. Healey stated that he was manager to Mesers. Bedford & Co., chemists, 3 Queen Street, Cheapside, E.C. On January 22 deceased eame into the shop and said that he wanted two drachms of prussie acid to kill a St. Bernard dog. Witness asked him why he should want the poison as he could not own the dog, and he said that his father owned the dog and was a medical man, but was too ill to come for the acid himself. Witness pointed out that, as he was a medical man, all he had to do was to write out a prescription, and he could get it from the local chemist; but the youth said his father asked him to get it to save him trouble. Witness said deceased was always a bright chap, and appeared to be in his usual spirits, so that he did not think he was doing any harm by serving him. He said that it was a very dangerous poison, however, and that he should only let him have it in a diluted form. He made up a special bottle, and then made an entry in the poison-register of the address. As a matter of form he then asked the boy for his name, which he gave as the one he had always known him by—namely, "Fraser"—and, taking his money, asked him to sign the register. He handed money, asked him to sign the register. He handed the boy the change and then went to serve another customer, as he was alone in the shop; and it was not until the lad had gone that he discovered that no signature had been put there. He knew the boy so well as a regular customer that he really had not the slightest hesitation in serving him. The Coroner: But you see you did not know his right name. Witness answered that he knew that the lad worked in King Street and knew him so well that he thought no more of it. He considered that he was acting rightly under the Pharmacy Act to serve the boy, as he questioned him thoroughly. Diluted hydrocyanic acid was served and labelled in every way in conformity with the Act and carefully sealed. The Coroner: But the allimportant fact is that you did not get his signature. Mr. Healey explained that it was an easy omission under the circumstances. He thought Methuen had signed. Witness had never sold him poison before, but he had not the least reason to be suspicious, as deceased seemed to be in the

gayest of spirits and to speak the truth.—After a discussion on the logality of counter-prescribing, Police-constable Whitehead stated that another firm of chemists had refused to supply poison to Methuen as they did not like the look of him. The constable also stated that the label had been scratched off the bottle with the exception of "Poison," etc. After several disagreements the jury eventually returned an open verdict, the foreman stating that a number of the jury felt strongly on the irregular and casual way in which the poison had been sold. The Coroner said if the jury desired him to send a report of the inquiry to the Pharmaceutical Society, he would do so, but the jury signified that it was not necessary.

Scots News.

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Personal.

Mr. J. C. McCorquodale, chemist and druggist, has been appointed to serve as a member of the Markinch (Fife) Town Council, in the room of Bailie Ewing, who has resigned.

Mr. G. Andreas Berry, F.R.C.S.E., 31 Drumsheugh Gardens, Edinburgh, lecturer on ophthalmology at the Edinburgh University, has been appointed Hon. Surgeon-Oculist to the King in Scotland, in the room of the late Dr. Argyll Robertson.

Mr. W. E. Grigor, son of Mr. W. G. Gligor, shipping chemist, Sydney, who was in business in Elgin before going out to New South Wales, has completed his five years' course in the Faculty of Medicine at the Sydney University and passed his final examination for the degrees of M.B., Ch.M. In his previous medical examinations he obtained honours and distinctions. He was educated at the Sydney Grammar School and Watson's College, Edinburgh.

Edinburgh.

Among the shopkeepers on the North and East sides of Edinburgh who have recently suffered from the depredations of burglars is Mr. J. S. B. Heddle, chemist and druggist, 16 Rodney Street, Canonmills. However, all the burglars got for their pains was a quantity of sweetstuff.

At a meeting of the Edinburgh Association of Science and Art, held on Monday night in the Scottish National Portrait Gallery, Queen Street, Mr. William Hume in the chair, Mr. D. B. Dott, F.I.C., read a paper on "The Chemical Manufactures of Edinburgh," in the course of which he said that Edinburgh turns out more chloroform and morphia than any other town in the world. The lecture was illustrated by a series of lantern slides.

Glasgow.

Messrs. Frazer & Green's new price-list covers sixty pages, just over half of which are advertisements. The latter refer mainly to proprietary articles, with a fair sprinkling of "own name" goods and druggists' sundries.

The death of Miss Janet Ann Galloway, Hon. Secretary of the Queen Margaret College, took place on January 24, with painful suddenness. For her services in connection with education the University of Glasgow honoured Miss Galloway with the degree of LL.D. She was a pioneer in the movement for the higher education of women.

Dundee.

The ambition of the Council of the University College is to secure autonomy in the appointment of its professors and control of the finance. An important movement is on foot to secure these powers, at present vested in the Court of St. Andrews University, which fills the Chairs although the University College finds the fees and administers even the moneys coming as gifts to the College.

The Town Council of Dundee proposes to take over the Sidlaw Sanatorium at Auchterhouse. It appears that 261 cases of consumption have been notified to the doctor in charge of the municipal dispensary in Dundee since May 1907. Should the transfer of the Sanatorium be carried out the accommodation will be increased from forty to 150 beds.

Aberdeenshire.

Mr. W. W. Hunter, chemist and druggist, Fraserburgh, has been appointed chemist to the local Tent of Rechabites.

Mr. J. R. McHattie, chemist and druggist, formerly of Torphins, has accepted a situation with Inman's Drugstores, Edinburgh.

Irish News.

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Personal Items.

Mr. Robt. Hastings, J.P., registered druggist, Newcastle, co. Down, has been unanimously elected Chairman of the Newcastle Urban District Council.

Mr. J. B. Hay, pharmaceutical chemist, Windsor Medical Hall, 138 Lisburn Road, Belfast, has been appointed a Vice-President of the Windsor Recreation Club.

Company Apprentices.

The circular convening a meeting in Dublin on January 28 of limited companies in Ireland trading as chemists or druggists, which was referred to in the C. & D. (January 23, p. 105), gives the reasons for calling the meeting. The deputation which waited on Mr. Herbert Samuel in December found him favourable to the introduction of a clause dealing with the old-standing grievance regarding the acceptance by the Pharmaceutical Society of certificates of apprenticeship to limited companies. Mr. Samuel agreed, it is stated, to accept a clause worded as follows:

And for the purposes of those Acts and any regulations made thereunder, service as apprentice or assistant to a body corporate carrying on business in accordance with the requirements of this sub-section, shall be deemed to be service as an apprentice or assistant to an individual lawfully carrying on the like business.

A compromise could not, however, be effected with the Pharmaceutical Society, and it was therefore necessary to leave Ireland out of the Bill rather than jeopardise its passing. Seeing that the matter had reached so forward a stage, the time has arrived for vigorous action on the part of all the companies interested, with a view to pressing their claim for early legislation, which has been promised by the Attorney-General for Ireland. The circular is signed by Sir Thomas W. Robinson, Ph.C., Sir Stanley Harrington, Mr. J. H. Haslett, Ph.C., Dr. George Clarke, Ph.C., and Mr. W. C. Dobbin, Ph.C. The last-named is acting as secretary pro tem.

Welsh News.

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The Poisons and Pharmaey Act.

At the annual meeting of the Cardiff Grocers' Association on January 19, Mr. C. P. Deverall suggested that the Secretary should obtain a list of patent medicines which would be barred under the new Poisons and Pharmacy Λ ct, as they would have to clear their stock from such proprietary medicines.

Rat-virus.

At the meeting of the Swansea Town Council on January 20, the medical officer submitted a report of experiments on a rat-virus the name of which did not transpire. Four ship-rats were each given one tube of the virus without effect. Three rats, fed on two tubes of the virus, had slight diarrhœa after seven days, but quickly recovered; and three weeks later the same dece was again given, and produced no effect. Four ship-rats, each fed on one and a half tube of the virus, behaved similarly, and seventeen days afterwards a dose of two and a half tubes each was given. Diarrhœa followed in five days, and on the seventh day one rat died, but did not show the post-mortem changes usually attributed to the toxic effects of the virus. All the others recovered. Three different strains of the virus were used, and the medical officer is of opinion that the substance did not fulfil the purpose for which it is sold.

French News.

(From the "C. & D." Paris Correspondent.)

MARMOREK'S SERUM.—M. Ch. Monad has presented to the Paris Academy of Medicine a report on the results obtained by the use of Marmorek's anti-tuberculosis serum. He has collected statistics of 1,379 cases treated with the serum, and after classifying these he has worked out the proportion of cases which have benefited as 65 per cent. of the medical and 72 per cent. of the surgical tuberculoses.

THE LEGION OF HONOUR.—M. Georges, first-class principal pharmacist, whose name appears in the January list of newly promoted officers of the Legion of Honour, was in charge of the pharmaceutical educational department at the Val-de-Grâce Military Hospital some years ago. At that time he gave some interesting information which appeared in the C. & D. in an article on military pharmacy.

ACADEMY OF SCIENCES.—On January 25 M. Louis Mangin was elected a member of the Paris Academy of Sciences, for the Section of Botany, in place of M. Van Tieghem, who has been elected Permanent Secretary. M. Mangin has held, since 1904, the professorship of cryptogamy at the Museum of Natural History, and the Academy, by its election, has crowned the scientific career of a self-made man, who has done excellent and useful work.

The English Patent Act.—On behalf of Messrs. W. J. Bush & Co., Ltd., of London, their representative here, M. E. Baube, addressed a circular letter some time ago to the leading French manufacturers of pharmaceutical preparations, etc., drawing their attention to the new British patent law. He offered the services of his firm to any French houses who desire to have the products they control, such as chemicals, pharmaceutical preparations, or perfumery, manufactured in England. The offer was also brought under the notice of the General Syndicate of French Druggists for the information of its members.

Wholesale Poisoning.—The trial began at Bourges, on January 25, of Jeanne Gilbert, of Saint Amand, accused of poisoning nine persons, of whom four died. Details of the case, which has naturally excited great interest, were given in the C. & D. at the time of the woman's arrest. The evidence showed that in 1905 and 1906 the prisoner had purchased considerable quantities of arsenic on the plea of wanting to destroy vermin, but she gave false names and addresses. There was a lively scene when the assistant of M. Bouilleau came into the witness-box and deposed to having sold the prisoner from fifteen to twenty packets of arsenic. Epithets such as "false" witness and "liar" were freely used; but, although the assistant had inscribed the sales in the poison-register, he had failed to get the latter signed by the purchaser, as the regulations require, and this weakened his evidence. The trial will probably last several days.

ARSENICAL INSECTICIDES.—The Paris Academy of Medicine has been consulted in regard to the employment of arsenical compounds in agriculture from the point of view of public hygiene. The report of the committee which was appointed to consider the question, of which Professor Moureu, of the School of Pharmacy, was Secretary, is to the effect that the use of arsenical insecticides should be prohibited owing to the many dangers involved in their use. At a meeting of the Academy the subject was considered from all points of view. On the one hand it was asserted that to authorise the use of arsenical insecticides would be sacrificing the interests of public hygiene to those of agriculture, while the prohibition would have the opposite effect. The views of M. Linossier were that the committee should recommend the prohibition of the use of soluble arsenic compounds and lead arseniate, while permitting the use of the arsenite and arseniates of copper as insoluble compounds of arsenic under strict regulations.

"Lest we Forget."—Apart from the "classie" pharmacies, there are a few historical houses in Paris which are of chemical or pharmaceutical interest. The two ancient, not to say dilapidated, houses in the rue Cuvier, which bear the numbers 57 and 61, and stand on each side of one of the entrances to the Jardin des Plantes, are

respectively the former residences of the famous Gay-Lussac and the centenarian Chevreul. No. 7 rue Poissonnière, a plain old five-storey house, the ground floor of which is occupied by a pharmacy, was once the residence of Chaptal, chemist, Minister of State, and Count of the French Empire. A fine old-fashioned mansion of the Faubourg St. Germain, at the corner of the rue St. Dominique and the Boulevard St. Germain, bears an inscription in honour of J. B. Dumas, one of the former occupants; while in the busy, grimy, working-class quarter at the other end of Paris a similar tablet reminds the passer-by that Parmentier "died in this house [68 rue du Chemin-Vert] on December 17, 1813."

OFFICIAL DOCTORS WANTED .- The French "Gratuitous Medical Aid" Act, passed in 1892, has (like the Employers' Liability Act in Great Britain) opened the door to some medical and pharmaceutical abuses. Among the instances discovered and published are those of a family in the Aube department, who obtained sufficient cod-liver oil "for the ailing children" to provide themselves in lamp-light all through the winter evenings. Another poor person afflicted with skin-disease received 80 francs' worth of Peru balsam, while a pauper suffering from heart-disease was given 176 francs' worth of caffeine, 60 francs of cocaine, and 45 francs of morphine. The French pharmaeist has simply to execute the medical prescriptions which are presented to him, and the explanation of the abuse seems to be that as the patients are allowed to choose their own doctors, it is not in the doctor's interests to be too particular as to the quantity of medicine ordered. The remedy seems to be the appointment of official doctors under the Act, and a published list of medicaments that may be prescribed by the doctors.

The New Vice-President of the Paris Society of Pharmacy.

Soon after M. Thibault's nomination as Vice-President I called at his pharmacy in the rue des Petits-Champs. It is only a few yards from the rue de la Paix, and is an officine of the best type. M. Paul Eugène Thibault is no longer young—he was born in 1846—but he has a hale and cheerful demeanour that many of we younger men may envy. His greeting was as hearty as his appearance. "Ah! the C. & D.," he says; "yes, of course, our acquaintance is of long standing." And we plunged into a chat in which biographical details and reflections on French pharmacy and pharmacists, past and present, were agreeably associated. Here are some of the points of the interview: M. Thibault was a student at the Paris Superior School of Pharmacy and an interne of the Paris hospitals. After taking the first School Prize and the Internat medal, he had just gained his diploma when the Franco-German war broke out. He volunteered at once, and was drafted as "extra assistant Pharmacist-Major" to the Val de Grâce Military Hospital, the establishment where all military pharmacists are still trained. The duties of the army pharmacist were not confined to the dispensary. Young Thibault "assisted" (to quote the picturesque French expression) both at the combat of Chatillon and the sanguinary sortic of Champigny, filling up his time by organising ambulances at the P.L.M. railway-station (familiar to Riviera travellers), the Jardin des Plantes (which was bombarded during the siege), and the rue de la Glacière, also in the part of Paris most exposed to Prussian shell-fire. Circumstances put him in charge of the ambulance station at the time the Commune broke out. The gendarmes, hunted by the Communists, had to take refuge in the military hospitals. M. Thibault received a score of these fugitives, and although threatened with death if he refused to surrender them, maintained his firm attitude and saved their lives. When, peace was re-established, he took a situation as manager of a large chemical-works. Superphosphate of lime was at that time obtai

Two years later, in 1877, he opened his present pharmaey, and has since held most of the positions and honours for which the proprietor of a high-class pharmacy is eligible. He wears the violet rosette of an officer of Public Instruction, and has made many contributions to pharmaceutical science. When the 1884 Codex was published, it was found to contain some serious errors. The Minister of Public Instruction, after consulting the Paris Society of Pharmaey, appointed M. Thibault (in eollaboration with M. Marty, the distinguished military pharmacist) to rectify the errors.

Australasian News.

The fullest information regarding the Australasian drug-trade and pharmacy is given in "The Chemist and Druggist of Australasia," copies of which can be obtained at 6d. each, post free, from the office of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

New South Wales.

Dispensing at Private Hospitals.—By the efforts of the N.S.W. Pharmaceutical Society, with the co-operation of Mr. F. J. Thomas, M.L.A., himself a pharmacist, a useful clause has been added to the Private Hospitals Bill, which has passed both Houses. The clause is as follows: "Any medicines to be dispensed or compounded for use in hospitals as defined under this Act shall be so dispensed or compounded by pharmacists registered under the Pharmacy Board of New South Wales." "Private hospital" means any house, etc., in which medical and surgical or lying-in cases are received and lodged and a charge is made for treatment, attendance, or care.

New Zealand.

CHEMISTS' DEFENCE.—A paper by Mr. Leonard McKenzie, before the Central Pharmaceutical Association, emphasised the need of co-operation for defence against unjustifiable prosecutions under the Sale of Food and Drugs Acts. The plan proposed is as follows: Some insurance companies are willing to appoint the secretary of any society as their agent, giving him the commission allowed by the Underwriters Associations. It is suggested that the Secretary of the New Zealand Federation or the Secretary of each local Association be appointed agent and that each member should then pass his fire insurance through the Secretary's hands, the commission on premiums received to be placed to the credit of a defence fund or Association in any place suitable for the purpose. Provision could also be made for the Secretary to retain such portion of the commission as may be decided upon for his remuneration. In this way the nucleus of a defence fund would be obtained.

The Examination Regulations, which are to come into force on June 1, 1911, adopted at the full meeting of the Pharmacy Board last June, were approved by the Governorin-Council on November 20 and gazetted on December 3. The apprenticeship regulations, which come into operation on April 1, were also approved. Under the last-named regulations every registered chemist who has an indentured apprentice must send the articles of apprenticeship to the Registrar, to be recorded in the register of articles of apprenticeship. This applies to all existing apprentices.

The New Zealand Official Year-book for 1908 has just been published, and shows a further steady increase of trade in the Dominion. The imports for 1907, excluding specie, amount to 16,539,707l., as against 14,303,170l. in 1906, an increase of 2,236,537l. The movement of imports from 1898 to 1907 shows that the totals have increased by 101 per cent. in value during that period. The imports per head (excluding specie and Maoris) were 17l. 19s. 11d in 1907, just 2l. per head more than in 1906. The total value of imports from the United Kingdom in 1907 was 10,278,019l., which compares very favourably with ten years ago, when they only reached 5,310,675l. Imports from the United States amounted to 1,425,596l., while those from Germany only amounted to 351,634l. The value of drugs, chemicals, and druggists' sundries imported during 1907 from all sources amounted to 340,502l., or 24,329l. more than the previous year. Of this sum the U.S.A. contributed direct 21,696l., while Germany's share only reached 6,893l.

Tasmania.

The Pharmacy Board of Tasmania was appointed by the Governor-in-Council on December 14 and gazetted the following day. The Board consists of Messrs. H. T. Gould, J. T. Weaver, F. Holmes, C. Eberhard, P. Ash, T. P. Davern, and W. B. Drake. This is virtually the Council of the Pharmaceutical Society of Tasmania, with the omission of two of the four Launceston members—Messrs. F. Styant-Browne and F. K. Fairthorne. The Board will thus consist of five Hobart pharmacists and two Launceston pharmacists.

South African News.

(From the "C. & D." Correspondents.)

Cape Colony.

A HOUT BAY EXCURSION.—The annual outing of the employés of Messrs. Petersen, Ltd., manufacturing chemists, Cape Town, was spent on December 26 at Hout Bay, a pretty spot several miles away. Brakes conveyed about thirty members of the staff to their destination, which was reached shortly after 11 A.M. Lunch was served at the Royal Hotel, the menu being as follows:

> Soun. Codex Pharmaceutical. (Ox Tail.)

> > Fish.

Salmo Capensis and Herbal Extract. (Cape Salmon and Parsley Sauce.)

Entree.

Mistura Bunny et St. Patrick's Pills. (Fricase of Rabbit and Green Peas.)

Joints.

Hippi—Ustum.
(Roast Leg of Mutton.)
Bovinine—Ustum. (Roast Sirloin of Beef.)

Poultry.

Brands Chicken and Rheumaticuro Sauce. (Roast Fowl and Bread Sauce.)

Vegetables.

Tuber Amyli, Bile Beans, Seigels or Pink Pills. (Potatoes, French Beans, Green Peas.)

Sweets.

Mistura Fructi and Cremor Frigid. (Compoto of Fruit and Custard.) Sapo Durus. (Cheese.) Kerol. (Coffee.)

The condiments provided by the card were Tidman's salt, pulv. sinapis, pulv. piperis nig., and Rimmel's vincgar. An adjournment was then made to the beach for cricket, the result of the "Married v. Single" match being a drawn game. During tea, after the loyal toasts had been duly honoured, Mr. Craig proposed the toast of "The Firm, to which Mr. Tucker replied. A hearty vote of thanks was accorded to Mr. E. B. Giblett, who was responsible for the arrangements of the thoroughly enjoyable day.

Transvaal.

Business is Quiet in Johannesburg and Pretoria, and chemists generally complain of but little extra trade during the recent festive season.

NITRIC-ACID THROWING .- At Johannesburg "A" Court on December 29, Joseph S. Light was charged with throwing nitric acid over his wife. During the case Mr. A. Rennie, chemist, of Eloff Street, said he attended to a woman who was brought to his shop suffering from burns caused by some corrosive acid, the effects of which he neutralised as far as possible before sending her to hospital. Mr. A. Cohen, chemist, Market Street, deposed that accused asked him for a shillingsworth of nitric acid "for jewellery purposes," 2 oz. of the acid being supplied. The case was eventually adjourned until January 6.

Orange River Colony.

MEDICAL AND PHARMACY COUNCIL.—The following is the complete text of the report of the sub-committee of the Council re proprietary medicines (see C. & D., January 9,

p. 42):
The sub-committee agreed unanimously: That some form of the sub-committee agreed unanimously: That some form of the sub-committee agreed unanimously: vertising and sale of proprietary, patent, or secret medicinal preparations, nostrums, cancer cures, and so-called proprie-tary cures, electric belts, and other surgical appliances, which their makers fraudulently claim will cure certain diseased conditions of the human body.

It is recommended that any Bill which may be framed to

meet the conditions mentioned above shall embraco the

following:

1. No patent or proprietary medicine which contains any of the drugs mentioned in the Schedule Λ annexed shall be sold or offered or exposed for sale by retail unless the name

and proportion of each such drug contained therein shall be distinctly specified on the label of each bottle or package.

Resolved that the type of declaration be not smaller than six-point sans serif (upper and lower case). Sample submitted:

This preparation contains a medicinal dose of a scheduled Poison, but is perfectly safe when used according to the directions.

2. It shall be illegal to manufacture, sell, or offer for sale any misbranded proprietary medicine or surgical appliance. A proprietary medicine or surgical appliance shall be deemed to be misbranded if:

(a) It is an imitation of or offered for salo under the

name of another article.

(b) It bears any statement, design, or device, or if it contains any ingredients or substances which shall be false or misleading, or calculated to deceive the public as to the nature or effect of such medicine or its ingredients.

(e) The contents of the package as originally put up shall have been removed, in whole or in part, and other contents

have been removed, in whole or in part, and other contents shall have been placed in such package.

(d) Any handbill, circular, printed matter, or other advertisement containing any statement, design, or device, which is false or calculated to deceive the public as to the nature or effect of such medicine or its ingredients, be delivered with the package or otherwise circulated.

3. With respect to abortifacients, all medicines for femalediseases must have the complete formula on the wrapper and immediate container of the medicine.

4. No proprietary preparations shall be received for transmission to this colony unless consigned to a licensed dealer,

registered medical practitioner, or registered dentist.

5. Proprietary Medicines; Definition.—Any medicinal preparation shall be deemed to be a proprietary medicine within the meaning of this Act if the maker or vendor has or claims

(a) Any secret, secret art, or exclusive right in making

or preparing it.

(b) If it is or has been patented, or is sold under any

registered title.

(c) If it is held out or recommended by advertisement, handbill, or label as a nostrum, or specific, or as beneficial to the prevention, cure, or relief of human ailments, or any disorder incident to or in any wise affecting the human body. Nothing in the last preceding section contained shall apply to any medicine sold or offered or exposed for sale by retail by any registered ehemist and druggist on or from his own premises which medicine has been compounded or prepared by himself and in respect of which he claims no occult or secret art, nor any exclusive right or title for the preparation. thereof, and which he does not at any time by any publicnotice or advertisement or by any written or printed papers, handbills, or labels, or words printed or affixed to or delivered. therewith, hold out or recommend as a nostrum, or specific, or as beneficial to the prevention, care, or relief of any complaint, ailment, or disorder incident to or in any wise affecting the human body; or prepared from any formula known to and approved by the Medical and Pharmacy Council, provided that the label bears definite reference to formulary; nor to any drugs or preparations named or contained in the British Pharmacopæia or any other medicinal drug prepared, or sold, or offered or exposed for sale, without any mixture or composition with any drug, preparation, or ingredient, other than some necessary or customary medium or excipient for the conveyance or satisfactory administration of the same, provided that in such cases, unless the pharmacopæial or medicinal name of such preparation or drug or the name by which the same is customarily known appear on the label' thereof, the same shall be deemed to be a proprietary medicine.

Note.—In this connection it shall be illegal to uso the name of the Medical and Pharmacy Council as a recom-

mendation.

6. Guarantee.—The manufacturer or proprietor of a proprietary medicine may lodge a general guarantee with the Medical and Pharmacy Council that his medicine complies in all respects with the provisions of the Act, when the Medical and Pharmacy Council shall cause such declaration to be registered under a serial number; a ticket bearing such serial registered under a serial number; a ticket ocaring such serial number may be affixed to every package of the medicine or article, and shall protect the vendor from any prosecution in respect to any sale of such article. Or the manufacturer or proprietor may give a specific guarantee on or with each invoice of goods supplied, and such specific guarantee shall be a bar to any prosecution of the vendor in respect of the goods mentioned in the invoice.

7. Penalties.—The question of penalties shall be left to the-Law Department, but under the penalties clause the following shall be suggested to the Law Department:

The Medical and Pharmacy Council or other body administering the Act shall be empowered to prohibit the sale of any patent or proprietary medicine or surgical

appliance if sufficient cause be shown. Appeal against such

decision may be made to the High Court.

8. In drafting the Bill it is recommended that the Law Department take into consideration the possibility of some change of form of Government, and also, in the event of dividing the Medical and Pharmacy Council, that both bodies shall have adequate representation on any Board administering this Act.

It is also a request to the Law Department that this Bill be sent back to the Medical and Pharmacy Council after the draft Bill has been completed by the Law Department, and before publication of the draft Bill in the Gazette.

Proposed Schedule of Prohibited Drugs.

Aconitine, atropine, strychnine, morphine, and all poisonous alkaloids and their salts Antifebrin Arsenic

Cannabis indica Chloral hydrate Coca (any preparation or admixture of, containing more than 0.1 per cent. of coca alkaloids)

Cocaine, preparations of, if more than 0.1 per cent. Codeine

Corrosive sublimate Ergot

Glucosides, poisonous—e.g., digitalin, etc. Heroin Nux vomica Opium Poppies, all preparations of, excepting red poppy petals and syrup of red poppies Precipitate, red (red oxide of mercury) Precipitate, white (ammoniated mercury) Prussic acid Savin and its oil Strophanthus Tartar emetic

All preparations of the above-mentioned drugs, spirits of wine, such as grain, wine, potato, or sugar spirit, or any other form of ethylic alcohol if present to the extent of more than 20 per cent. estimated as ethylic alcohol.

Colonial and Foreign News.

NEW GERMAN PATENT LAW .- Dr. von Bethmann Hollweg, Imperial Secretary of State for the Interior, recently informed the Budget Committee of the Reichstag that the Imperial Government was about to draft a Bill reforming the German Patent Law.

Mr. J. Parsons, B.Sc., and a former F.C.S., Principal Mineralogical Surveyor to the Ceylon Government, mysteriously disappeared on December 29 from the Nuwara Eliya Grand Hotel, where he was spending his Christmas holidays. Up to January 6 he had not been discovered, and he is now presumed to have been lost in the jungle.

RUSSIAN PERFUMERY EXPORTS.—The Council of the Russian Congress of the Representatives of Trade and Industry is agitating for a reduction in the cost of spirit for the production of perfumes as an absolute essential to the successful production of such goods in Russia; also for a change in the method of inspecting perfumes for export, and for

a larger drawback on them when exported.

SALE OF COCAINE.—Police authorities in the City of Philadelphia are determined to put an end to the illegitimate sale of cocaine. Fortunately very few chemists have been found to be violating the law, and the chief offenders are street hawkers. So far as chemists are concerned, the local Pharmaceutical Association has passed resolutions condemning the traffic, and has gone further than that by co-operating in every possible way with police officers. All over the country pharmacists are evidencing a desire to correct this threatening evil.

To Wholesale Houses.—The retail traders of Shanghai have addressed a circular to manufacturers and wholesale houses regarding the injury done to retailers by the practice of wholesalers dealing direct with the public. A meeting of the retail trade was held in December in the Shanghai Chamber of Commerce Rooms, when a resolution on the matter was unanimously passed. The goods which are stated to be sold by wholesalers direct to the public include patent medicines. It is pointed out that a continuance of the practice will cause disruption in the relations at present existing between the retail and wholesale traders. The circular, a copy of which we have received, is signed by thirty-four of the chief firms in Shanghai.

ADVERTISING SECRET REMEDIES .- The Berlin Chamber of Commerce has called the attention of the German Secretary of State to a clause in the draft of a new law regarding the sale of secret remedies in Germany. A paragraph in the

clause states that advertisers of remedies of which the formula is not disclosed shall be proceeded against, the maximum penalty on conviction being six months' imprisonment or a fine of 1,500m. It is pointed out that it would be hard to expect a publisher who is not in possession of the requisite technical knowledge to reject all advertisements of medicinal preparations whose composition is unknown to him. A fairer course would be to warn him that the preparation advertised comes within the range prohibited by the Act, and only prosecute if he continue to insert the offending advertisement.

PHARMACY IN GERMANY.—The dearth of apprentices and consequent long-felt want of cheap labour in German pharmacies have led to an agitation being instituted to obtain permission to employ a lower grade of personnel to attend to the more general work, especially counter-sales, writing out bills, etc. As the law stands, only pharmacists in the truest sense of the word may be employed, and all attempts to introduce "druggists" or women as sellers failed to obtain the sanction of the Government. The Prussian Minister for Medical Affairs has, however, now issued a somewhat ambiguous explanation to the paragraph in question. According to the new decree it will be possible to employ non-pharmaceutical employés in pharmacies to attend to the "rougher" work not requiring professional knowledge, provided that this is done under supervision and sole responsibility of the pharmaceutical employés. The latter paragraph is peculiar and contrary to the provisions of the Civil Law, which assigns the blame for any mishaps to the transgressor, and to some extent to the proprietor of the business.

Austrian Pharmacists' Assistants.—At the last general meeting of the Austrian Pharmaceutical Society the project of a set of regulations concerning the work in pharmacies was discussed, which are practically a code to control apprentices and assistants from the moment they enter pharmacy. Applicants for a vacancy are instructed what they must do; managers are instructed how to treat applications, and not to enter into definite engagements until after a month's trial. As a set-off to many petty rules about the assistant's work and conduct, he has the right of having his salary increased by fixed amounts at stated periods, in consideration of his professional abilities, responsibility, and work. Once a year he is granted a holiday of a fortnight, to be increased every three years by two days until a maximum holiday of thirty days is reached. Special holidays are deducted from the yearly holiday. Taking the regulations as a whole, they practically abolish the personal freedom of proprietor and assistant. In Teutonic Europe (writes a correspondent) the pharmacist is considered a peculiar being, and is exposed to the ridicule of his fellow-citizens, which is not surprising in view of these Austrian ambitions.

MINERAL WATERS IN PRUSSIA.—A decree regulating the manufacture of artificial mineral waters and lemonade throughout the Duchy of Saxe-Meiningen has been issued. In the preparation of aërated waters, etc., only distilled water may be used, or, in places with a public water-supply, the latter may be used. The salts and chemicals must be kept in properly labelled containers and fully comply with the tests for purity given in the German Pharmacopæia. The carbonic-acid gas employed must be chemically pure, and fruit essences from natural fruits only are permitted, without the addition of injurious chemicals or colouring substances. The bottles, indiarubber rings, and metal parts used must correspond with the legal requirements regarding permissible percentage of lead or zinc. A paragraph is devoted to cleaning the bottles before filling, and here it is stated that it is forbidden to use lead shot or acid containing arsenic for this purpose, and owing to the difficulty experienced in properly cleaning them the use of bottles with a glass marble (Codd's) is prohibited. It is interesting to note that one paragraph of this regulation provides expressly that persons suffering from infectious diseases or skin-affections may not be employed in connection with the manufacture or sale of aërated waters, etc. The police and official experts have power to visit all places where beverages of this kind are prepared or sold and to take samples for analysis. The penalties for transgressions are fines up to 71. 10s. or up to two weeks' imprisonment, "unless a higher punishment is otherwise foreseen."

Legal Reports.

High Court Cases.

THE USE OF THE ROYAL ARMS.

In the Chancery Division on January 22, Mr. Justice Swinfen Eady had before him a motion by the Royal Warrant-holders' Association to restrain Messrs. Kitson, chemists and druggists, of Worcester, from using the Royal Arms over their shop, and from employing the words "By Royal Appointment" on their labels. Mr. Sebastian appeared for the plaintiff Association, and Mr. Carmichael represented the defendants.

Mr. Sebastian explained that the action was brought under Section 68 of the Trade Marks Act, 1906, and that the plaintiffs were bound by their charters to take proceedings. In this particular case they had the special authority of the Lord Chamberlain.

His Lordship: Do the defendants submit?

Mr. Sebastian said the defendants had agreed to the terms of an order as to the injunction, and there was only the question of costs remaining. When it appeared that the defendants intended to submit, they suggested to the plaintiff Association that an order should be taken in Chambers, but the Royal Warrant-holders' Association felt that, owing to what had come before their notice so constantly, it was exceedingly important that the attention of traders should be publicly called to the provisions of the Act, and that people should be given to understand that it is contrary to Act of Parliament to use the Royal Arms and titles of that kind without authority. He suggested that the defendants should treat the motion as the trial of the action, and take a final order. The defendants were willing to do that, and the only question was one of costs. Replying to his Lordship, Mr. Sebastian said the Royal Arms were over the defendants' shop, and also the words "By Royal Appointment."

Mr. Carmichael said that that was not quite right. The words "By Royal Appointment" were on some labels which defendants were in the habit of putting upon their medicine-bottles. Defendants were successors of a firm named Twinberrow & Evans, and that firm had had a Royal appointment to the Duchess of Kent and Princess Victoria in 1834. Princess Victoria afterwards became, of course, Queen of England.

His Lordship: Was it renewed?
Mr. Carmichael: "No." The defendants, he said, bought the business from Messrs. Twinberrow & Evans, and allowed the Royal Arms to remain over the shop. They were the same arms as were there originally, and they had now been taken down. He admitted that defendants used the words "By Royal Appointment" on their labels, and that they had no right to do so. They therefore submitted to the injunction upon terms.

Mr. Sebastian said the matter had not been sprung upon defendants, because the Association had been corresponding with them and begging them to take the arms down

for the best part of twelve months.

His Lordship asked whether defendants had reprinted labels with these words upon them.

Mr. Sebastian: Oh, yes; they admit that.
Mr. Carmichael said he was not there to defend defendants' conduct in that matter. They expressed their regret, and were quite prepared for the injunction to be made against them. The only question which arose between them, therefore, was as regards the costs. Mr. Sebastian asked that the plaintiffs should have the costs of the action as between solicitor and client.

Mr. Sebastian: I am not asking for that.

Mr. Carmichael said the defendants wrote and asked the plaintiff Association to proceed in Chambers in order to save expense. In reply the plaintiff Association wrote:

With regard to your suggestion that an order in Chambers might be sufficient, Mr. Sebastian advises that from your client's treatment of the matter it is clear the public do not sufficiently appreciate the provisions of the law relating to these matters, and, we may add, the Association are determined to insist upon the observance of the law which is their prerogative under their charter. It is felt that, if the Association is compelled to resort to legal proceedings, they should be dealt with publicly. We therefore propose to serve notice of motion, but we will not file

evidence or do anything to put your client to unreasonable expense.

Counsel submitted that it was a little hard that the defendants should have to pay the cost of letting the public know the law upon the matter and to save other traders

from falling into the pitfall.

His Lordship said the plaintiff Association was amply justified in moving in Court for an injunction. He thought it was a very proper course for them to have taken. The defendants had consented to make an end of the matter by treating the motion as the trial of the action, and his Lordship was willing that it should be disposed of upon terms agreed between the parties. He observed that whatever stamps and fees were payable were not in consequence of the motion coming before the Court, but in consequence of the motion having been treated as the trial of the action. His Lordship accordingly made the order agreed to, and treated the motion as the trial of the action.

AN ACETIC-ACID PATENT.

In the Chancery Division on January 22, Mr. Justice Warrington commenced the hearing of the action brought by Mr. Carl Von der Linde, of Crefeld, Germany, against Mr. H. W. Brummerstaedt, of Cross Lane, St. Mary-at-Hill, E.C., and the Vereinigte Chemische Fabriken-Actien-Gesellschaft, of Schweinfurt, Germany, a corporate body, to restrain the defendants from selling acetic acid alleged to be manufactured according to or in the manner described in the specification of the letters patent No. 3477 of February 18, 1895, now vested in the plaintiff, or in any manner only colourably differing from the same, and generally from infringing the rights of the plaintiff in respect of such letters patent. Mr. A. J. Walter, K.C., and Mr. Groves appeared for the plaintiff, and Sir A. Cripps, K.C., and Mr. Cozens-Hardy represented the defendants.

Mr. Walter, in opening, said the letters patent related to an invention of an improved process for the manufacture of acetic acid from pyrolignate of lime. Under the plaintiff's patent, distillation of the crude article with sulphuric acid under a vacuum resulted in a pure acetic acid, or nearly so, as decompositions did not then take place and they did not get empyreumatic bodies. The point of the invention was distillation under a vacuum. Proceeding, counsel said the German company manufactured the article the plaintiff complained of, while the other defendants imported and sold it in this country. Defendants, by their defence, denied infringement and title; alleged want of subjectmatter; and said that the letters patent were invalid because they did not describe sufficiently the patent. Mr. Walter pointed out that the defendants could not, however, give particulars under the latter head.

Sir A. Cripps: We say the patent gives an insufficient description; the specification is insufficient, and you cannot

get the result claimed from it.

Evidence was then called on behalf of the plaintiffs, the witnesses examined on this day being Dr. Julius Raschen and Mr. Oscar Guttmann.

On Saturday, when the hearing was resumed, Sir Alfred Cripps concluded his cross-examination of Mr. Guttmann, and Dr. Raschen was recalled to give the result of certain experiments he made to show the difference between the vacuum and no vacuum.

On Monday Dr. Bernard Dyer and Dr. Carl Von der Linde were the witnesses examined.

Sir A. Cripps then opened the case for the defendants by indicating the points of their defence. He observed that counsel for the plaintiff said the infringement complained of was the treatment of acetate of lime and sulphuric acid under vacuum, whereby they got rid of the impurities of the sulphurous fumes. The first answer to that was that there was no word about that in the specification or patent from beginning to end. The second answer was that this was not a patent limited to sulphuric acid; it applied to any suitable acid. It was quite clear upon the face of the specification, properly construed, that the claim of the patentee was to get rid of impurities in the nature of tar, spirit, or oil-what were called empyreumatic impurities. He submitted that in the evidence for the plaintiff it was shown that the tendency of decomposition and distillation in vacuo was not to decrease the amount of these

elements, but slightly to increase them. Long before this patent an impure product had been produced, and the only possible patent, such as plaintiff claimed, would be for the direct production of pure product. But this was not direct production, as it was found necessary to distil again. He should prove that there was no infringement at all in this case. The defendants decomposed before distillation, before the addition of any heat, and before the application of the vacuum. When they put on the vacuum they got a crude acetic acid, and no acid was sent to England until it was distilled over and had been turned from an impure to a pure acetie acid. Finally he said that, even apart from anticipation and want of novelty, there was nothing in the nature of subject-matter in this patent at all.

The witnesses for the defendants were Mr. Otto Hehner

and Mr. James Swinburne.

Counsel addressed the Court on Tuesday, when his Lordship reserved judgment until the following morning

His Lordship, in giving judgment, stated the objects of the patent, and said that acetie acid is in the first in-stance produced by the distillation from wood, but the acetie acid so produced contains a very large number of impurities. A further process at the date of the patent of obtaining of acetic acid for commerce was by mixing first the product resulting from the original distillation with lime-viz., acetate of lime-which is then mixed with some powerful acid, the effect of which was chemically to release the acid and enable that to be dis-tilled over. The mixture of acetate of lime with the powerful acid was distilled with the object and result of separating the acetie acid from the other substances involved in the mixture. The result was that the acetic acid still contained certain impurities, and, prior to the date of the patent, these impurities had to be removed by some subsequent process, of which that described in Johnson's patent is an example. Now, the object of the plaintiffs appears to have been to dispense with the subsequent process and to obtain sufficient puro acetie acid directly by the single mixture of acetate of lime and a powerful acid, and they appeared to have thought that this result might be obtained by conducting that distillation in vacuum. Now at the date of the patent the following facts were known in regard to distillation

Firstly, that such a process was possible.

Secondly, that it had certain advantages, one of which was that it reduced the temperature at which distillation could be conducted.

Thirdly, that such advantage as it had was derived from the fact that it tended towards the greater purity of the distilling.

All these facts were to be derived from the statement made in one or other of the specifications referred to in the ease. Not only that, but distillation in vacuo had been recommended for use by the process of manufacturing acetic acid itself. It had been recommended by Biggs for use in the original distillation. It had been recommended by Johnson for use in the subsequent process of purification. In plaintiffs' favour it must be mentioned that it had not been actually recommended for use in the distillation of the mixture of acetate of lime with hydrochloric acid or sulphuric acid. Defendants by their defence denied infringement, and they set up the invalidity of the patent on the grounds of want of novelty and want of subject-matter having regard to chemical knowledge at the time, and want of utility and insufficient description of the specification. Most important of these defences, to his Lordship's mind, was that which set up that the patent was invalid for want of subject-matter. The patent itself did not involve the use of any new materials. It was nothing but the application of well-known methods of old materials for the purpose of producing the old and well-known chemical The useful result which the plaintiffs claimed body. was the elimination of tarry spirit and oil. That result was, it was true, obtained by distillation in vacuo. it was also true it was obtained without distillation in vaeuo. On that part of the case the only inference his lordship could draw from the facts he had mentioned was that the elimination of sulphur dioxide was not the result contemplated, and the patent contained no inventive faculty directed towards that result. On that part of the case he could not come to the conclusion that there was here any invention sufficient to justify the granting of letters patent for that invention which they had claimed. His Lordship, having dealt with the questions of want of utility and want of sufficient description, said in conclusion it seemed to him that on all the grounds the plaintiffs failed, and there must be judgment for the defendants, with costs of the action.

USE OF TITLE "DENTISTS" BY A COMPANY.

In the Chancery Division on January 23, before Mr. Justice Swinfen-Eady, Mr. Micklem, K.C., on behalf of the Attorney-General, applied for an injunction in default of defence against G. C. Smith & Co., Ltd., trading as dentists and makers of artificial teeth at Lewisham and other places.

Mr. Micklem addressed the Court mainly on the question whether the company was a "person" within the meaning of the section. He applied the test prescribed by Lord Selborne in "Pharmaceutical Society v. London and Provincial Supply Association" (1880, 5 A.C. 857, 862)—namely, whether the company could fulfil the condition by being registered, and referred to three eases decided in Ireland—"O'Duffy v. Jaffe" (1904, 2 I.R., 27), where a company using the title of "surgeon-dentists" was held not liable under the Act; "Rex v. Registrar of Joint Stock Companies" (1904, 2 I.R., 634), where it was held that "dentist" meant "registered dentist," and that, as a company could not be registered under the Act, it could not be a registered dentist; and "Attorney-General v. Myddletons, Ltd." (1907, 1 I.R., 471), which decided that a company might be restrained from using the word "dentist" in such a way as to amount to a false representation calculated to lead the public to believe that the

persons it employed were qualified dentists.

Mr. Justice Swinfen-Eady granted an injunction perpetually restraining the company from representing that they are carrying on or intend to carry on the profession or business of a dentist or surgeon-dentist as successors to George C. Smith, surgeon-dentist, or that they are dentists or dental practitioners, or by any name, title, addition, or description, or any title, addition to a name, designation, or description, whether expressed in words or letters, or partly in one way and partly in another, implying that they are registered under the Dentists Act, 1878, or are persons specially qualified to practise dentistry. He ordered the company to pay the costs. This arose from an action brought at the instance of the British Dental Association against the company and George C. Smith, the sole director, for alleged breaches of the Dentists Act, 1878. The company had been formed in 1906 to carry on the business of Smith, whose name, formerly on the Dentists' Register, had been struck off on May 22, 1906. Since that date several convictions had been secured against him under Section 3 of the Act. The company was alleged to be unlawfully carrying on the practice or business of dentists at 153, High Street, Lewisham; 11 Wrotham Road, Gravesend; 9 Tonbridge Road, Maidstone; 35 Essex Road, Dartford; and 11 Paddock Terrace, New Road, Chatham, and to be employing the defendant George C. Smith and other persons, not being registered dentists or legally qualified medical practitioners, to earry on the practice or business of dentists at the said addresses, and to be, by eirculars or otherwise, taking and using the title of surgeon-dentists, and holding itself out as employing registered dentists or persons specially qualified to practise dentistry.

Fraudulent Assignment.

In the Chancery Division, Dublin Four Courts, before Mr. Justice Barton, on January 21, the case of John McClelland, pharmaceutical chemist, Ballyshannon, eo. Donegal, against C. J. Barnewall and W. N. C. Moore came on for hearing.-Mr. T. J. Atkinson, B.L., said that plaintiff, being desirous of selling certain houses in Dublin. entrusted all his documents to a solicitor, named John Roberts. in order to have the conditions of sale by auction prepared. The auction proved abortive, and nothing was done till April 1907, when Roberts wrote to the plaintiff stating that he had obtained a purchaser for the houses at 850l., 500l. to be paid down. Roberts prepared an assignment of the houses and sent it to plaintiff to execute, plaintiff being assured that the assignment would not be handed over

till the money was paid. Mr. McClelland never received the purchase-money, and it was discovered that Barnewall and Roberts had the title-deeds in their possession as security for 500l. from the defendant Moore.—Mr. Justice Barton: Is Mr. Roberts still a practising solicitor?—Mr. Atkinson: I understand he is still on the rolls, but, of course, this matter will go further.—Mr. Pim, B.L. (who appeared for the defendant Moore), said the action was withdrawn against his client by consent.—Mr. Justice Barton set aside the assignment as fraudulent, subject to the consent as regards the defendant Moore, and expressed regret that he could give no further relief. He ordered Barnewell to pay the plaintiff s costs and also the costs which would have to be paid by the plaintiff to the defendant Moore.

CROSFIELD'S PERFECTION SOAP.

In the Chancery Division on January 22, Mr. Justice Swinfen Eady had before him an application by Joseph Crosfield & Sons, Ltd., to register a trade-mark for soap. Mr. Astbury, K.C., who appeared with Mr. Sebastian for Messrs. Lever Bros., Ltd., said he had arranged an order with Mr. Kerley, who represented applicants. The matter had occupied a very long time before the Registrar, who at the instance of Messrs. Lever Bros. refused to register the trade-mark. There was now an appeal to the Court from this refusal, and it had been arranged that the motion should go into the witness-list, each party being at liberty to give notice of the declaration which they proposed to issue. There were over 1,000 declarations before the Registrar, but both parties were agreed that many of them need not be used at the trial. There would be liberty to either party to supplement their declarations and call such viva voce evidence as they might be advised, the case to go into the witness-list, but not to come on this term .- His Lordship made an order in the terms arranged, and directed that the action should be set down at once.

County Court Cases.

CHEMISTS' SUNDRIESMEN'S CLAIM.

At the Southwark County Court, before Judge Willis on January 26, Messrs. Shirley Bros., Ltd., chemists' sundriesmen, Rockingham Street, Newington Causeway, recovered 5l. 16s. 6d., with costs, from Messrs. Ellen & Son, bootmakers, of High Road, Wood Green, in respect of 250 gross of tin boxes for boot-polish.

ACTION AGAINST A CHEMIST.

In the Lord Mayor's Court, London, on January 25, before Mr. Assistant-Judge Jackson and a jury, Messrs. Currie, Thomson & Co., merchants, 74 and 36 Ludgate Hill, E.C., obtained judgment, with costs, against Mr. Wilfred Ernest Bamborough, chemist, 781 Fulham Road, London, S.W., for 151, money due by the defendant to the plaintiffs under an agreement.

ANTISEPTIC PASTILLES.

At the Lancashire Chancery Court, held at Liverpool on January 25, before Vice-Chancellor Leigh Clare, the case was mentioned of Evans v. Jones, which counsel said related to "some very excellent antiseptic throat pastilles," the profits of which were devoted to charitable purposes. When the matter was previously before the Court on February 4, 1908, his Honour made an order, and inserted an undertaking, among others, that plaintiff should continue to manufacture them for a year. The making of the pastilles had been going on very satisfactorily, and the application now made was that the order should be continued for another twelve months. Mr. MacMasters, who appeared for the Attorney-General, agreed, and his Honour made the order asked for.

CLAIM FOR GOODS SUPPLIED.

At Leicester County Court on January 20, Messrs. T. Howard Lloyd & Co., wholesale chemists, Leicester, sued T. Eagle, trading as the Daydawn Embrocation Co., Nicholas Street, for 121. 10s. 5d., the value of goods supplied. Mr. G. Day-Adams, who appeared for the plaintiffs, said that 91. 5s. 3d. of the claim was a balance of account for beeswax and other articles. The rest of the claim was for 15 gals. of embrocation at 4s. 9d. per gal. The first lot was supplied in May and the second

in November. Defendant did not dispute the claim until pressed for payment, and he then complained that the embrocation was of inferior quality. He was asked to submit a sample for examination, and he did so; but the embrocation he sent to plaintiffs was supplied by another firm altogether. A member of the plaintiff firm, who bore out this statement in evidence, added that the embrocation was made in strict accordance with defendant's instructions. Defendant produced several bottles of embrocation which he said he had had returned from customers, each showing considerable separation. He added that he wanted compensation for injury to his trade. Plaintiffs' witness denied that the bottles of embrocation produced were manufactured by his firm. Defendant called his traveller to speak to the number of complaints received from customers. Honour pointed out that the claim for the beeswax, etc., was not disputed, but with regard to the embrocation defendant seemed to be in doubt as to which of two firms manufactured it. Defendant seemed to conduct his business in a loose way, and there was not sufficient evidence to show that plaintiffs were the manufacturers of the unsatisfactory embrocation. He found for plaintiffs for the amount claimed.

Bankruptcy Reports.

Re George H. Waugh, L.R.C.P., 132 Grosvenor Road, Belfast, Chemist and Druggist and Medical Practitioner.—At Belfast Bankruptcy Court on January 25, before the Registrar, this case came up on an application to consider a motion for the payment of the costs of a trust-deed. An order for payment was made, the amount to be fixed in Chambers.

Re Joseph Henry Collins, 369 Brockley Road, Brockley, and 3 Imperial Buildings, London Road, Forest Hill, London, Chemist.—The following are trade creditors in this failure (see C. & D., January 23, p. 107), the liabilities being stated at 881½. Is. 10d. and assets net 906½. 3s. 8d.: Allen & Hanburys, Ltd., London (36½.); Burgoyne, Burbidges & Co., London (17½.); T. Bristow & Co., Ltd., London (10½.); Butler & Crispe, London (55½.); W. Butcher & Sons, Ltd., London (30½.); Evans Sons Lescher & Webb, Ltd., London (28½.); Crossmith, Sons & Co., London (11½.); D. & W. Gibbs, Ltd., London (17½.); Hodgkinson, Prestons & King, London (18½.); Houghtons, Ltd., London (34½.); S. Maw, Son & Sons, London (170½); Manners & Hopkinson, London (14½.); Parke, Davis & Co., London (10½.); H. C. Quelch & Co., London (32½.); Surgical Hosiery Co., Ltd., Nottingham (21½.); Sangers, London (25½.); Suttley & Silverlock, Ltd., London (12½.); J. Townsend & Sons, Exeter (53½.); Francis, Nicholls & White, London (39½.); Parsons, Evans & Francis, London (32½.).

Deed of Arrangement.

Betts, Charles Ernest Oscar, Quay Street, Woodbridge, Suffolk, Chemist and Druggist.—Trustee, G. M. White, 14 Old Jewry Chambers, London, E.C., chartered accountant. Dated January 12; filed January 19. Liabilities unsecured 200l.; estimated net assets 42l. Among the creditors are Barclay & Sons, Ltd. (11l.); S. Maw, Son & Sons (22l.); Warwick Bros., Ltd. (14l.).

Gazette.

Partnerships Dissolved.

BIGGS, J. M., and FLETCHER, R. H., surgeons, etc., Cricklewood Lane, Child's Hill, and Chichele Road, Cricklewood, London, N.W., under the style of Biggs & Fletcher.

Bosworth, J. R., Halsted, D. G., and Verling-Brown, C. R., general medical practitioners, Sutton, Surrey, under the style of Bosworth, Halsted & Verling-Brown, so far as regards J. R. Bosworth.

Cumming, H. L., and Weston, J. F., general medical practitioners, Kingston-on-Thames, Surrey, under the style of Cumming & Weston.

ISAAC, J. G., and MOON, A. L., dental surgeons, Neath, South Wales, under the style of J. Griffith Isaac & Moon.

Pye, W. G., and Pye, W. T., under the style of W. G. Pye & Co., Cambridge, scientific-instrument makers.

The Bankruptcy Acts, 1883 and 1890.

RECEIVING ORDERS.

Carson, Frederick William, Hoylake, Cheshire, and Cynwyd, Corwen, Merionethshire, late Liverpool, dentist.

KAY, FRANK MIDDLETON, Lanes, bleacher, dyer, printer, and manufacturing ehemist.

WILLIAMSON, THOMAS, late earrying on business at Oswestry, Salop, now residing at Blackpool, Lanes, late chemist, now of no occupation.

Adjudications.

Beveridge, James S., Bromley, Kent, physician.

CARSON, FREDERICK WILLIAM, Hoylake, Cheshire, and Cynwyd, Corwen, Merionethshire, late Liverpool, dentist.

WILLIAMSON, THOMAS, Blackpool, Lanocs, late Oswestry, Salop, late chemist, now of no occupation.

New Companies and Company News.

The letters P.C mean Private Company within the meaning of the Companies Act, 1907, and R.O., Registered Office.

W. H. WILKINS, LTD. (P.C.).—Capital 2,000l. Objects: To take over the business of W. H. Wilkins, ehemist, druggist, wine merehant, and dealer in sundries, 359 Birehfield Road, Perry Barr, and 38 Potters Hill, Aston. The first directors are W. H. Wilkins, 359 Birchfield Road, Handsworth, drug-gist, and T. Carter, 333 High Street, Smethwiek, decorator.

T. & H. SMITH, LTD.—The directors recommend a dividend of 5 per cent. (5s. per share), free of income-tax, on the ordinary shares for the year, payable March 1; to write 2,800%. off Bellevue Works, and carry 940%. forward.

off Bellevue Works, and carry 940l. forward.

PRICE'S PATENT CANDLE, LTD.—The aecounts to December 31, 1908, show a profit for 1908 of about 72,000l., to which has to be added 6,138l., undivided profit from 1907. making together about 78,100l. Deducting the dividend of 15s. per share, amounting to 23,125l., paid in September last, a sum of about 50,000l. will be available for disposition at the meeting in March, and the directors will recommend that the sum of 10,000l. be written off for depreciation, that 32,812l. be applied in paying a dividend of 17s. 6d. per share, and that the remainder, about 7,200l., be earried forward.

LIMITED PARTNERSHIPS.—The following have been regis-LIMITED PARTNERSHIFS.—The following have been registered: Ernest Gray & Co., manufacturers of and dealers in dentists' wax and other models and materials, 1, 2, and 3 Nightingale Workshops, 347 Hornsey Road, N. Partnership for ten years from January I. General partner, E. E. Gray, 78 Woodside Road, Chitts Hill, Wood Green, N. Limited partner, A. Toeher, Caledonian Club, Charles Street, St. James, S.W., contributing 400l. in cash.—Madame Thurza Norris, toilet specialists, 84 Great Portland Street, W. Partnership for five years from January 1. General partner, Thurza Brown, 20 Maitland Park Villas, Haverstock Hill. Limited partners, Jane A. Baldock, 20 Maitland Park Villas, Haverstock Hill: Gertrude A. Baldock, 6 Grenville Place, Cromwell Road, W.: and Emile Hatzfeld, 65 Mortimer Street, W., eontributing 400l., 20l., and 180l. in eash respectively. W., contributing 400l., 20l., and 180l. in eash respectively.

MORTGAGES AND CHARGES.—The following have been filed MORTGAGES AND CHARGES.—The following have been filed at Somerset House: Brechfa Chemieal Co., Ltd., Nantgaredig. Particulars of 1,500l. debentures, created December 29, 1908, the present issue being 900l.—Cologne Perfumery Co., Ltd., London. Debentures to "bearer" for 150l., created January 16, 1909.—Mandall & Co., Ltd., druggists, Stocktonon-Tees. Deposit of deeds on January 4, 1909, to secure all monies due or to become due to the North-Eastern Banking. Co. Ltd.—A memorandum of satisfaction in full of a debeg. Co., Ltd.—A memorandum of satisfaction in full of a debenture dated February 26, 1908, securing 2,000*l*., has been filed by St. Jacobs Oil., Ltd., London and abroad.

BARTITSU LIGHT-CURE INSTITUTE, LTD.—In the Companies BARTITSU LIGHT-CURE INSTITUTE, LTD.—In the Companies (Winding-up) and Chaneery Division, on Tuesday, January 26, Mr. Justice Swinfen-Eady, in the ease of Bestie r. Bartitsu Light-eure Institute, Ltd., on the application of the plaintiff, appointed a receiver of the defendant eompany, and Mr. Barton Wright as manager, specialist, and director, at a salary of 44. 4s. per week. Mr. Barton Wright, his lordship ordered, should not continue as manager longer than four months without the leave of the Court, and should not continue the business except so long as it was earried on at a profit. profit.

Births.

Manson.—At 47 Lonsdale Street, Belfast, the wife of Mr. David Manson, registered druggist, of a son.

PARK.—At 23 Mutley Plain, Plymouth, on January 20, the wife of C. J. Park, Ph.C., of a daughter.

Deaths.

Blake.—On December 19, 1908, Mr. E. Charles Blake, pharmaceutical ehemist, Brisbane, Queensland, aged pharmaceutical enemist, Brisbane, Queensland, aged forty-two. Mr. Blake had been for many years Secretary of the Pharmaceutical Society of Queensland and Registrar of the Pharmacy Board, as well as a teacher at the Brisbane College of Pharmacy. He passed the qualifying examinations in Queensland in 1887 with honours, and had been in business in Rockhampton and then in Brisbane. On the resignation of Mr. Ryatt Maughan as Secretary and Registrar, Mr. Blake was appointed Registrar of the Pharmacy Board early in Prior to that he had been a member of the Council of the Pharmaceutical Society and Hon. Secretary of the College of Pharmacy. He had not been in robust health for some time, and on December 15 was seized with paralysis, to which he succumbed four days later. Mr. Blake had in hand the preparations for the Australasian Pharmaceutical Conference. His official duties brought him largely into contact with Government Departments, and he was carrying on the negotiations for the amending Poisons and Pharmacy Bill which has been long promised by the Government. He familiarised himself with the pharmaceutical legislation of all parts of the British Empire, and there are probably few, if any, in Australia who were so well informed on these matters. His portrait was given in the C & D., April 30, 1904, p. 685, in a group photograph of the Pharmacy Board of Queensland. At a special meeting of the Pharmacy Board on December 22 a vote of sympathy was passed to the widow and family.

EVERETT.—At 7 High Street, Windsor, on January 22, Douglas James Everett, youngest child of Mr. J. G. Everett, Ph.C., aged eight.

FINN.—On January 21, Mr. Frederick Finn, of Messrs. F. Finn & Sons, Ltd., patent-medicine vendors, St. Margaret's Street, Canterbury, aged seventy-six.

SHILLCOCK.—At 37 Hammelton Road, Bromley, Kent. on January 14, Mrs. Bethania Shillcock, widow of the Tte Mr. J. B. Shillcock, chemist and druggist (who predeceased her twenty-five years ago), aged eighty-eight. Mrs. Shill-cock leaves five sons and four daughters, including Mr. Arthur Shillcock, chemist and druggist, and also Messrs. G. Shillcock, Ph.C., and S. Shillcock, chemist and druggist, the two last-named carrying on the business of Messrs. Shillcock & Sons, at High Street, Bromley. The funeral took place at Bromley Parish Church on January 20.

SMYTHE.—At Cardiff, Mrs. R. Smythe, widow of the late Mr. Robert Smythe, chemist and druggist, Pontypridd.

WILD .- At Whalley Road, Clayton-le-Moors, Accrington, on January 24, Mr. Jos. Wild, chemist and druggist, aged sixty-eight. Mr. Wild was taken ill while standing at his door, and died within half an hour from heart failure. He was a native of Oldham, and was in business for forty years at Burnley before coming to Clayton-le-Moors. The interment took place at Hotham Cemetery on January 28.

WILLIAMS.—At 5 Wentworth Villas, Plymouth, on January 25, Mr. Jabez Viviah Williams, chemist and druggist, in business at 95 Old Town Street.

Wilson.—At Highfield Place, Bradford, on January 20, Mr. John D. Wilson, drysalter, Richmond Road, Bradford, aged sixty-three.

> Of a book you've all heard the fame, 'Tis the C. & D. Diary by name; It's nulli secundus, Each year found among us, And to help one and all is its aim. W. Rodgers, Ely.



UR subscribers will notice that, as is customary with the Winter and Summer Issues of The Chemist and DRUGGIST, a large number of advertisers have on this occasion availed themselves of the opportunity of addressing the whole drug-trade by means of insets. The "infinite variety" of these evidences of business enterprise is apparent to those who study them, this being due in a measure to the unique opportunity which insets present of imparting a greater sense of individuality to the announcements. Some profit by the occasion to tell the pharmaceutical world interesting historical details of their businesses, others make their insets the medium for special offers, and in all cases the distinctive manufactures of the various houses are emphasised. The point of these remarks is to urge our readers to make a systematic survey of the supplements, all of which tell of goods sold or used by pharmacists, and some, at least, of new developments which may mean a considerable saving of time or money to the working chemist. Now that the trade-horizon is brightening it is an appropriate time for branching out in new directions or tightening up the loose parts of the businessmachine. No better plan for starting a train of new thoughts can be recommended than to study the various and varied announcements of advertisers in this the premier journal of British pharmacists throughout the Empire. To those firms who wish to adopt the inset method of advertising we may add that the only other occasion this year on which the drug-trade can be addressed in this manner will be in the Summer Issue and Jubilee Number, which will appear on July 31. The Publisher is prepared to send particulars and assist with suggestions any who communicate with him. In the following notes the leading features of the insets are pointed out, the monographs being arranged in alphabetical order. The figures in parentheses indicate the position of the inset in the advertisement pages.

ALLEN & HANBURYS, LTD., Bethnal Green, London, E., fillustrate some of their new lines in high-class toilet-carticles and pharmaceutical preparations. The inset is adorned with beautiful reproductions by the three-colour process of the articles referred to, while the wholesale prices are appended. Next to having the actual goods in front of a buyer this method of showing what they are like is certainly the best that can be devised. The enterprise of Messrs. Allen & Hanburys in the direction of fine printing is particularly noticeable. (Pp. 40 and 41.)

H. Bronnley & Co., Ltd., Acton Vale, London, W., insert a circular prettily printed in colours. This inset shows the appearance of the bottles and packages of Courvoisier's otto of violets perfume and soap, Parfum Havaneta, and Savon Havaneta. The wholesale prices of these charming toilet-preparations are attached to the illustrations. (Pp. 146 and 147.)

Brunner, Mond & Co., Ltd., Northwich, insert a circular which tells the advantages of sodium bicarbonate as a source of carbonic-acid gas to aërated-water makers. The chief points are that there is considerable economy in time and labour, a saving in the quantity of sulphuric acid required, and the absence of insoluble residue. Directions

for using the mineral-water bicarbonate are given, and there is an offer to send a 2-cwt. bag of the salt for 10s. to those aërated-water manufacturers who desire to test sodium bicarbonate against whiting as a source of gas. (Pp. 146 and 147.)

Butler & Tanner, the Selwood Printing-works, Frome, insert a circular calling attention to the necessity of effective printing for ensuring business success. The firm undertake commercial printing of every kind, and state that they are prepared to submit estimates and send specimens of their work to any who contemplate publishing a price-list or issuing any kind of advertising matter. (Pp. 194 and 195.)

EDWARDS' "HARLENE" Co., 95 and 96 High Holborn, London, W.C., devote a supplement to the "hair-drill" preparations. The reasons for the popularity of Harlene are told in a few words, while the prices, wholesale and retail, are given of the company's three specialities—Harlene, Uzon, and Cremex. (Pp. 146 and 147.)

EUCRYL, LTD., Hull, recognise that the best means of stimulating the sales of their preparations is to secure the interest of the retailer, and with this view the company are offering exceptional terms to the trade. The offer made in the inset carries with it the one condition that Eucryl tooth-powder is always displayed on the counter. The proposition is fair and well worth taking advantage of. (Pp. 194 and 195.)

FLETCHER, FLETCHER & Co., LTD., Holloway, London, N., supply a window-bill with their inset. Vibrona is the speciality advertised, and the proprietors give particulars regarding the prices (which are protected) and the profits that accrue to the retailer who sells this "ideal tonic wine." The reproduced photographic picture on the back of the inset is eloquent testimony of the universal distribution of Vibrona (pp. 40 and 41).

JOHN GOSNELL & Co., Ltd., 101 Southwark Street. London, S.E., have an inset in which are given particulars of the company's latest novelties. By means of the beautiful photographic reproductions it is possible to form an accurate estimate of the chaste style of these new toilet articles. Among those shown are Cherry Blossom quintessence (perfume, soap, powder), Violette sublime quintessence (perfume, soap, face-powder), Society perfume, Society eau de Cologne, Jewel of Asia, the Fragrant series, the Favorite perfumes, Country Garden perfumes, honey sand soap, cherry tooth-paste, and eau de quinine. In some of the cases mentioned varieties or new style packages of well-known Gosnell specialities have been introduced—e.g., cherry tooth-paste where an extra moist variety has been put on the market and the paste can be had in decorated collapsible tubes. The prices of all these goods are given in the inset. (Pp. 146 and 147.)

ICHTHYOL-COMPANY CORDES, HERMANNI & Co., Hamburg, keep before the trade the style of the original packages and labels of ichthyol. The inset shows these in the appropriate colours. On the back of the circular will be found some useful notes on the medicinal properties and methods of prescribing ichthyol. (Pp. 64 and 65.)

JOHN JAKSON & Co., Mitcham Road, West Croydon, have

a supplement, priated in colours, showing the appearance of the original bottles of the firm's Mitcham peppermint oil.

Messrs. Jakson obtained the highest award at the Franco-British Exhibition for the production of peppermint, lavender, and chamomile oils. The reproductions of sprigs of peppermint and lavender, with which this inset is adorned, are well done. (Pp. 64 and 65.)

PHILIP JOSEPHS & SONS, LTD., 93 Old Street, London, E.C., place in this issue a four-page supplement printed on tinted art-paper. It refers to shop-fittings, showcases, and shop-fronts. Some of these are illustrated to show the stage of evolution that has been attained in the manufacture. A useful feature of the inset is the insertion of six actual specifications for the complete fitting of a pharmacy, at prices from 30% to 200%. The fourth page of the circular refers to the beautifully made showcases known as "Silent Salesmen," the prices ranging from 3% 10s. to 10% 10s. (Pp. 64 and 65.)

KINGSLEY AND THACKERAY HOTELS, LTD.—The management of the Thackeray and Kingsley Hotels have an inset in this issue giving information of service to visitors to London. The difficulty of finding moderate-priced accommodation when visiting the Metropolis was very real until the advent of these modern hotels, which are not only centrally situated, but are well appointed and comfortable.

(Pp. 64 and 65.)

Koko-Maricopas Co., Ltd., 16 Bevis Marks, London, E.C., utilise their inset to make an important announcement to the trade. This is in regard to the withdrawal of the "trial" bottle (the 1s. 9d. size). After February 1 the advertised prices of Koko will be 1s., 2s. 6d., and 4s. 6d., the old 1s. and 1s. 9d. sizes being withdrawn from the market. As the company are augmenting their present advertising campaign, increased sales should result, while the retailers' good will is assured on account of the prices being protected through the medium of the P.A.T.A. The retail and wholesale prices are given in full in the inset. (Pp. 194 and 195.)

McKesson & Robbins, 91 Fulton Street, New York, U.S.A., give a supplement which refers to the "McK. & R." ovoid capsuled pills and Calox (the oxygen tooth-powder). The London agency for the pills is with Messrs. S. Maw, Son & Sons, 7 to 12 Aldersgate Street, E.C. Some useful formulæ and notes regarding special pills are given in the circular which are worth more than a passing glance. The fourth page of the inset refers to Calox, the London depôt for which is with Mr. A. C. Wootton, 14 Trinity Square,

Tower Hill, E.C. (Pp. 40 and 41.)

E. Merck, Darmstadt, Germany.—Nothing can give a better idea of the extent and importance of Merck's celebrated chemical-works than the nineteen fine pictures given in a booklet sent out with this issue. One can, in effect, wander round the Darmstadt works and note some of the more interesting features of this model organisation. First of all, read the concise account of the firm which is given in the early pages of the inset—the firm has a history dating back to 1668—and it becomes obvious that the guiding principles which have resulted in such a monument of enterprise must be of an abiding character. The founder of the factory a hundred years ago laid it down that "absolute purity and reliability" must always be associated with the name of Merck. A simpler and more effective road to success cannot well be imagined. The London office is 16 Jewry Street, E.C. (Inserted loose.)

A. & F. Pears, Ltd., 71-75 New Oxford Street, London, W.C., supply a four-page inset calling attention to the trade terms of their celebrated soap. There is no novelty in this, but it is desirable to reiterate that orders of not less than 5%. receive the maximum discount, thus placing the ordinary

chemist at no disadvantage as regards the largest buyers. (Pp. 40 and 41.)

The Postlip Mills make an ingenious use of their enclosure by affixing to it samples of grey and white filterpapers and seidlitz blue paper. The points to note are that the filter circles are chemically pure, and that the blue paper is unaffected by acid. The latter can even be used for packing the tartaric acid of a seidlitz powder without being reddened, although most chemists employ white paper for the acid. The papers are British made, and are obtainable from all druggists' sundriesmen. (Pp. 194 and 195.)

Rudduck & Co., 262 Old Street, London, E.C., who have a reputation as chemists' shopfitters, send with this issue a circular in which are enumerated leading lines in shopfittings. A study of the particulars there given will enable a chemist to obtain a fairly accurate estimate of the cost of fitting or altering the interior of a pharmacy. It should be added that Messrs. Rudduck are prepared to send, free of charge, exact estimates of any work that is contemplated. (Pp. 194 and 195.)

The Standard Tablet and Pill Co., Hove, Sussex, present a price-list dealing with their specialities in compressed drugs, coated pills, and capsules. The handsomely embossed cover points to the victory of the god of healing through being supplied with trustworthy medicaments. The section printed on pink paper refers to recent alterations in the prices of tablets and packed pills, while the blue paper portion is a price-list of "Own name" packed goods at protected prices. The two prominent scries are lavender and otto of violet toilet articles. A special note should be made of the window-display offer. (Inserted loose.)

Stevenson & Howell, Ltd., Southwark Street, London, S.E., have an attractive inset, printed in colours, which tells of the meaning of the "red ball" trade-mark—purity in essential oils and soluble essences. An interesting note regarding the purchase of essential oils is given on the back of the circular, which emphasises the need of a purity-guarantee with essential oils, and mentions the steps that have been taken to safeguard the interests of buyers. (Pp. 64 and 65.)

The Watford Embossing Co., 182 High Street, Watford, enclose a circular in regard to embossed seals. These seals, of which examples are given, are just the thing to give "the finishing touch" to proprietary and other packed goods; but hitherto there has been a tendency to restrict their use on account of a mistaken impression that the seals are very expensive. This inset shows that gold seals are within the reach of all who have a fair sale for their own proprietary articles. (Pp. 40 and 41.)

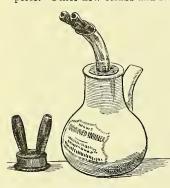
WILLOWS, FRANCIS, BUTLER & THOMPSON, LTD., 40 Aldersgate Street, London, E.C., have a handsome twelve-page inset, which gives a concise history of this oldestablished combination of wholesale drug-houses. our readers may not be aware that the company trace their business back to 1751. With the original firm have been successively amalgamated those of Herrings & Co.; Henry Ayscough, Thompson & Son; and Mackey, Mackey & Co. A most interesting account is given of these events in the inset, and a perusal of it will bring back to most of those now in middle life the memory of famous drug-houses which were revered in the days of their youth. The present company, while preserving the old traditions and faithfully preparing the specialities of its predecessors, is second to none in enterprise and progressive methods of business. The views of the different departments of the Aldersgate Street premises, which are shown, are sufficient to demonstrate that the organisation can cope with any pharmaceutical problem that is likely to occur in drug-trade com-There is considerable interest in the portraits, on the inside of the cover, of the directors, heads of departments, and representatives of the company, many of whom, will be personally known to our readers. (Inserted loose.)

WRIGHT, LAYMAN & UMNEY, LTD., Southwark, London, S.E., send out a circular which emphasises the important fact that their "business is under the personal control of pharmaceutical chemists in all its departments," the names of the pharmaceutists who have charge of the separate divisions of this well-known wholesale druggists and manufacturing chemists' being given. (Pp. 146 and 147.)

Our Town Traveller.

Maw's.

It would be somewhat strange if a walk through the many departments in the warehouses of Messrs. S. Maw, Son & Sons, at 7-12 Aldersgate Street, London, E.C., failed to reveal some novel idea. In brush-and-comb ware a new series, comprising four sizes of the latest approved pattern of tooth-brushes, which can be obtained with or without brand, has been devised to provide the chemist with his own individual line. A good line of English-made nail-brushes is offered at 8s., 10s., 12s., and 15s. a dozen, while those who require a cheaper article can have white fibre Japanese nail-brushes at 4s. a dozen. The "Lily" non-inflammable scurf-comb is supplied in easel showcase holding half-a-dozen each of the four sizes. Loose pricetickets are provided to enable the retailer to fix his own price. Other new combs and rakes shown are a beautifully



finished series in grained ivorine for 8s. 6d. a dozen, and the "Progress," a transparent, non-inflammable comb, at 8s. per dozen. Proceeding further a new pistonspray was handed to me. The new device gives a fine full cloud of spray, and it combines the advantages of the old ballspray with that of the pump-spray, resembling the former with the bellows removed. The prices with clear panelled vase are 2s. and 2s. 6d. The

small illustration shows the adaptation of an old contrivance to modern requirements. By the simple addition of a double rubber nasal piece the old-fashioned hot-water inhaler is convenient for nasal as well as oral medication. The price is 11s. per dozen complete, or nasal piece separate 3s. per dozen. The "Comfort" corn-rings are another novelty, about 1/2 inch of the inner edge of the adhesive ring being removed to prevent the irritation consequent on the corn-ring coming into contact with the hard surfaces of the corn. They cost 3s. and 3s. 6d. per dozen boxes. The sterilisable enema introduced by "Maws" some years ago has been further improved by making the union of rectal and vaginal pipes on to the enema delivery-tube with ground-glass surfaces. The prices are now 26s. 6d. in card, 28s. in cedar boxes, 29s. in waterproof bags, and 34s. in sterilisable tins. A new line of closely woven lisle gloves for nurses' use during operation, at 8s. 6d. a dozen, may be of interest to the chemist who is asked for a cheap glove for that purpose.

Pure Essential Oils.

A soothing odour of oil of orange-peel greeted me when calling on Messrs. Stevenson & Howell, Ltd., Standard Works, Southwark Street, London, E.C. I was shown into a waiting-room, where presently I had the advantage of a pleasant chat with Mr. Howell. While waiting I could not help musing that the surroundings in a measure reflected the progressive ideas of the company. Conveniently fur-nished, one noted that advantage had been taken of the metallic-filament lamps for lighting purposes, while an electric heater shed a pleasant glow in the room. At the time of my call the trade in Sicilian essential oils and other products was in a disorganised condition owing to the terrible earthquake, and my first inquiries were naturally directed to obtaining Mr. Howell's opinion on future prices. I was told was to the effect that when the hysterical inflation of prices, which had been going on for some time, has subsided, there will probably be but a moderate advance in quotations. Subsequent events are proving that this opinion is a correct one, but it may be a week or two before settled prices are again in force. All my readers are of course aware that Messrs. Stevenson & Howell, Ltd., deal in essential oils in enormous quantities, and many are familiar with the steps that have been taken to uphold the reputation of this country for supplying the best. In the price-list

issued by the company the term "pure essential oils" is applied only to those oils which are guaranteed to be absolutely pure. The way this warranty is carried out is interesting and probably unique in the trade. Each bottle of essential oil of this quality is branded with the "redball" trade-mark, and any buyer is at liberty to send samples of deliveries for analysis direct to Mr. E. J. Parry, the essential-oil expert, who will analyse the oil at Messrs. Stevenson & Howell's expense. There are, however, uses in commerce for cheaper essential oils, such as in soapperfuming, and this quality of oils is listed under the title of "imported and commercial essential oils" and are priced as far as possible according to their analytical value. The moral of all this is that at the present time, when highly trained chemists are specially employed in devising processes of adulterating essential oils which will pass the usual tests for purity, it behoves the buyer to see that he obtains proper protection from such frauds. This, I think I have shown, is offered by Messrs. Stevenson & Howell.

We next talked of soluble and flavouring essences, which are the speciality of the house. The "Perfect" soluble essence of sweet orange, for the manufacture of orangeade, is much in evidence at present. "There is no reason," said Mr. Howell, "why orangeade should not be as popular as lemonade. To help it to become a favourite with the public we have devoted a good deal of thought and made many experiments in producing the 'Perfect' essence of sweet oranges corresponding to the 'Perfect' lemon essence." The trouble has been to produce an essence which shall yield a beverage in flavour exactly resembling a fresh orange squeezed with sugar. Chemists who know the numerous flavours which are obtained from the orange-tree will appreciate what this means. Suffice it to say that Messrs. Stevenson & Howell have solved the problem successfully. It is worth mentioning that in the beverage competition at the last Brewers' Exhibition lemonade made from the "red-ball" soluble essence of lemon obtained more marks for taste and bouquet than the lemonade which, on other grounds, obtained the highest award. The first prize in the fermented ginger-beer competition was taken by ginger-beer brewed mainly from Stevenson & Howell's soluble essence of "stone" ginger-beer.

A Sponge-exhibiting Stand.

Mr. H. A. Wanklyn, of 17 Manchester Avenue, Aldersgate Street, London, E.C., is of the opinion that "goods well shown are half-sold," and that was the reason of my visit to inspect his new show-stands for the "Velvey"

indiarubber sponges and fleshrubbers. The former, which we illustrate, is made of wood, and enamelled white, thus effectively contrasting with red rubber sponges and pleasing the hygienic mind of many of the modern public. As shown the stand holds four each of the three smaller sizes and two of the largest size, the cost of the assortment, with gratis stand, in the original shape (square-edged), being 17s., and in the new oval shape 19s. The sponges show a profit of over 25 per cent. on the selling-price, exclusive of the stand, which, if bought separately, costs 3s. 6d. When not in use the show-stand packs away into 21 by 6 by 1½ inches, including the box. For the "Velvey" flesh-rubbers a similar but simpler type of showstand is sent with first order for one dozen flesh-rubbers (or 1s. if



only half-a-dozen are ordered), to exhibit one each of the four sizes. As Mr. Wanklyn points out, the stand enables a good show to be made in a small space, and at the same time the rubbers keep clean. The "Velvey" well indicates the soft finish of the indiarubber sponge, and should aid in increasing the already good demand.

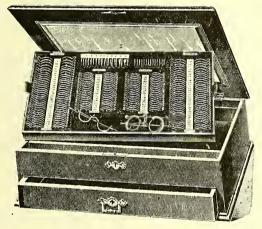
Newbery's.

A visit to the showroom of Messrs. F. Newbery & Sons, Ltd., at 27-28 Charterhouse Square, revealed several items

of interest to the retail chemist. For the believer in individualism a toilet-roll for the chemist's "own brand," with name and address printed on wrappers in gross quantities, is offered at 21s., 33s., and 45s. per gross, according to quality. An order for three dozen clinical thermometers gains a free showcase which exhibits half-a-dozen of them under glass on a velvet-lined draw-out slide and stores the remainder in a partitioned drawer at the back. A stock of the new "Aseptic" clinical thermometers had also just arrived. A novelty in coloured twines is 2-oz. cartons with transparent tops at 1s. 6d. per lb. (assorted or otherwise). A neat line of nail-polishing outfits, with polishing-stone and cloth, to retail at 6d., costs 2s. 9d. per card of one dozen; while an addition to the packed-goods department is lanoline, cold-cream, witch-hazel foam, etc., in delf jars with celluloid tops.

An Optical Chat.

When I entered the showroom of Messrs. Raphael's, Ltd., Hatton Garden, London, E.C., I asked the assistant to imagine that I was a chemist about to start the optical side-line. "Well, first of all, you will require a copy of 'The Chemist-Optician." As for several reasons I am well acquainted with the contents of that book, I could not help smiling as I asked for some definite information as to the best trial-set to buy. It is always best, I was told, to spend as much as one can afford on a trial-case; a chemist may even commit what at the time seems an extravagance, because eventually he will see that money so spent is well invested. To avoid the difficulty which would be felt by a novice, I asked to be shown a suitable case. The case which is here illustrated is the result, and I cannot do better than give a short description of it in the hope that some of my readers may find it useful. The case is known as No. 10502, and is made in either oak, walnut, or mahogany, with a panel of bevelled plate-glass in the lid, and fitted with a drawer. The tray containing the lenses, which lifts out, is a skeleton one—that is, it has a lattice bottom, so that any dust falls right through the tray, and is not accumulated beneath the lenses. The contents of this



tray determine the ultimate price of the case, there being three selections of lenses offered. No. 1 tray has thirty-five pairs of sphericals, twenty-one pairs of cylinders, fifteen prisms, fourteen discs and tinted glasses, with Maddox multiple-rod, groove, and double-prism, and the chromatic test. A case containing a No. 1 tray costs 111., but does not include a trial-frame, a suitable one being supplied at 36s. The trays No. 2 and No. 3 differ from No. 1 in containing fewer trial-lenses, the economy being effected by leaving out some of the less frequently used lenses. With No. 2 case the price is 10%. 5s., and with No. 3 9%. 4s. It should be noted that the quality of the lenses is in each case the best, because, of course, improperly centred or wrongly numbered lenses-which is what second quality meanswould simply vitiate the results obtained in all future cases of sight-testing. Our conversation then turned to rimless clips, which are the correct thing with the public at the present time. It is necessary—or at least is best—in the

interests of the refractionist and his customers that the chemist-optician should invest in a fitting-set. A set contains either twelve or twenty-four patterns, which may be either in gold-filled or nickel-steel goods. These are the actual clips, which are sold with appropriate glazing, and with such an assortment there is no great difficulty in picking out a clip which suits the customer's P.D. and width of nose. Messrs. Raphael issue a special circular regarding this fitting-set, which gives a lot of useful information on rimless goods. Bifocals are not so much used as they might be, but the more experienced opticians find it more satisfactory to supply bifocals than two pairs of glasses. I would in this connection call attention to the welded Kryptok lens, which is the high-water mark of this class of goods. The face of the distance-lens is ground away in the lower part, and a segment of glass inserted and fixed in place by welding, the curvatures and the varving refractive indices of the glass employed giving the different sights. It is rather a difficult mathematical problem to tackle, but the sight-tester simply indicates to his optical supply house what he requires, and it is worked out in the way the practical optician knows to be best. The blanks are kept in a great variety, and there is no difficulty in obtaining every combination. The last subject broached was that of opticians signs. Messrs. Raphael have for some time specialised in electric signs, and wherever current is available there is no better advertisement for the optician than a flashing-sign. It is not generally known that an automatic electric sign can be fitted up for less than a sovereign. The essential part is the flashing-lamp, which works by the alternate expansion and contraction of a platinum wire when an electric current is passing through it, the effect being to alternately shut off and light up the lamp. This is placed behind an appropriate translucent sign, and goes on working so long as current is supplied.

Barclay's.

A call at 95 Farringdon Street, London, E.C., one day last week, brought to light a few of the novelties which are somewhat difficult to find just now. A consignment of "Velvey" bath-sponges in four sizes, which are sold by weight, had just arrived; while, curiously enough, another new line is the "Velvet" enema, so called on account of its feel and dull finish, costing 15s. a dozen in either red or black. Mr. Grieg said the old-fashioned pot-pourri is again coming into vogue, and a pretty series of neat, whitewood caskets in carved fretwood, to sell at 1s., 2s., and 3s., and costing 13s. 6d., 16s. 6d., and 22s. respectively, will enable the chemist effectively and profitably to partake in the revived fashion. The "Aseptic" clinical thermo-meter is another sign of the modern preference for asepticism. The stem is made of two tubes with concentric walls, the scale being on the inner white opaque tube, thus eliminating the danger of microbes that may lurk in the marking of the ordinary clinical thermometer. The prices are 16s., 20s., and 24s. a dozen for ordinary 60-second and 30-second clinicals respectively. Other new lines are a metalsocketed shaving-brush with wood handle, costing 4s. 3d. a dozen, and a badger mixture shaving-brush with bone and metal handle at 9s. a dozen. The "Mascotte" feeder is of the new hygienic type, with transparent reversible fittings, and costs 4s. 6d. a dozen.

Eastern Cosmetics.—The use of Western cosmetics has come into fashion in the East recently, especially among Greek. Armenian, and Jewish women, as Turkish ladies must still wear a veil in public. The imports of these articles, which is not inconsiderable, is chiefly disputed for by France and Germany. However, for some years past the majority of these toilet-aids, such as rice-powder, eau do Cologne, soap, and hair-dyes, have been made in Constantinople also. The manufacturers, however, have frequently the effrontery to set off their goods with the labels of the best-known French and German makers, and they even fill them into empty original bottles. The chief local maker of cosmetics is Ahmed Farouki, who specialises in the production of eau de Cologne, toilet-waters, and soaps. The two other factories are of less importance, but the local production is increasing yearly. Cosmetics and also pharmaceutical products are chiefly on sale at the Egyptian Bazaar in Stamboul, where the whole production of the East in perfumes, dyes, and medicine and goods of European manufacture are gathered together.

Novelties and Trade Matters.

Pamphlets, Price-lists, and Showcards.

Aërators, Ltd., are issuing a neatly printed and illustrated pamphlet giving directions for preparing liquor magnesii carbonatis by means of "Prana" sparklet syphons and bulbs, the only other apparatus necessary being two beakers and a funnel. They will send a copy to any chemist who writes to them for one.

Mr. Bernard Slack, Prince's Chambers, Wolverhampton, sends us a specimen of a four-page folder, measuring $5\frac{1}{2}$ in. by 3 in. It is a sample of the style of advertising that he does for retail chemists—that is, Mr. Slack not only writes the advertisement, but prints it, and sees that the typographical arrangement is attractive and effective.

The To-Kalon Manufacturing Co., 61 New Oxford Street, London, W.C., send us a specimen of a small showcard dealing with Lavona de Composée, Flowers of Oxzoin, and To-Kalon perfume. It is in the form of an imitation oak plaque, measuring 9 in. by 6 in., with the names of the articles in script type. The company inform us that they are commencing an extensive advertising campaign for Lavona and To-Kalon perfumes, and they invite retailers to write to them for specimens of the card.

Messrs. John Gosnell & Co., Ltd., 101 Southwark Street, London, S.E., send us a copy of their new price-list of perfumes and other specialities, which they have just published. It is one of the most beautiful lists that have come under our notice, being printed in colours, and both the typography and the illustrations are artistic, showing that this old-established English house adds to the quality of its products that refined, artistic manner of packing which does so much to make toilet goods sell.

To commemorate the bicentenary of the foundation of the firm of Johann Maria Farina (Gegenüber dem Jülichs-Platz), which is referred to on page 179, new show-cards and window-tickets have been issued by the British representatives, Messrs. J. & R. McCracken, 10 Bush Lane, Cannon Street, London, E.C. The show-card, which is particularly attractive, has in the middle a reproduction of the well-known label of this eau de Cologne. The other cards are all in excellent taste, and such as can be exhibited in the highest class of pharmacy. The firm tell us they will be glad to send a show-card, counter-card, price-card, window-ticket, and supply of leaflets free of all charge to any chemist who applies.

Messrs. Duncan, Flockhart & Co., Edinburgh and 143 Farringdon Road, London, E.C., send out a calendar which has daily tear-offs affixed to a card beautifully embellished with views of Edinburgh. Upon each tear-off is a useful note on some special product, which enhances the value of the calendar. We have also received a copy of the firm's latest price-list, which is capitally arranged by means of a cut-index for ready reference. It is also provided with a ring, by which it can be suspended near the desk, and an ingenious calendar book-mark, upon the back of which is printed the index of the price-list. A separate publication is the interesting "Annotations on Special Pharmaceutical Preparations," to which we have referred on a previous occasion.

A Valveless Feeder.

Messrs. Savory & Moore, Ltd., 143 New Bond Street, London, W., send us the latest hygienic feeder, which is valveless and devised as a further step in the fight against the lurking microbe. The new type resembles the old-fashioned round-ended feeder with the modern upturned neck and wide mouth fitted with reversible teat. There are no internal ribs or corners which cannot be reached by the brush during cleaning. The novelty, however, is the small hole pierced in the top, about one-third of the distance from the end. The aperture does away with the end valve, and also allows regulation of food-sumply by simple pressure of thumb or finger. The retail price, complete with brush, in a strong and attractive red box lined with corrugated paper, is 1s.

880's Ammonia.

Messrs. Brown & Blackburn, of the Chemical and Ammonia Works, Thongsbridge, Huddersfield, have sent us a specimen of their "liquid ammonia." This firm have made ammonia solutions for over thirty years, and they state that only best grey sulphate of ammonia is used in their preparation, the ammonia gas being absorbed in pure water. The sample showed upon titration practically 34 per cent. of ammonia gas, corresponding to a specific gravity of 0.884—as near as possible to the ideal 0.880; while on neutralisation no empyreumatic odour was developed. The ammonia is supplied in winchesters, carboys, and iron drums, as well as in bottles suitable for counter-trade. Messrs. Brown & Blackburn will be pleased to answer inquiries.

"Eupneuma."

This is the name given by Dr. Ritsert's Pharmaceutical Institute in Frankfort-on-Main to a preparation for the relief of asthma and hay-fever. It is a glycerin solution

containing in a concentrated form the products obtained, according to a patented process, by the combustion of stramonium, belladonna, grindelia, and potassium nitrate, to which is added 1 per cent. of anæsthesin, 2 per cent. of subcutin, and 0.3 per cent. of atropine methyl-bromide. A specially constructed atomiser (here figured) is recommended for spraying the fluid, as by its use an extremely fine cloud is produced, ensuring a penetrating effect of the liquid into the most minute bronchioles. The advantage of this apparatus is that it can be conveniently carried in the



pocket ready for immediate use, and is supplied in a round cardboard box 4 in. high. A tight-fitting stopper takes the place of the branch bearing the two nozzles, and effectually prevents any danger of leakage. Messrs. Schacht, Warner & Co., 55 Fore Street, London, E.C., are the agents for this country.

Ergotoxine. We are indebted to Messrs. Burroughs Wellcome & Co. for a specimen of ergotoxine phosphate in fine crystals, which has special interest at the moment in view of the fact that an endeavour has been made to discredit the existence of the alkaloid in a state of purity. We may recall the fact that in 1906 Mr. F. H. Carr, F.I.C., of the firm's Dartford Laboratories, and Dr. George Barger isolated from ergot a second crystalline alkaloid, differing from the ergotinine of Tanret (which has but slight physiological activity), both in chemical composition and physiological action. To this they gave the name of ergotoxine, and its physiological properties have been studied and described by Mr. H. H. Dale, M.A., B.C. (Cantab.), as well as by Dr. Barger. It is the body to which ergot owes its ecbolic properties. When Messrs. Burroughs Wellcome & Co. began to produce the alkaloid on a manufacturing scale they took advantage of Carr's observation that ergotoxine phosphate is the most easily purified of the salts. It is obtained with chemical and physical constants as described in a communication to the Chemical Society, and is the starting-point for the commercial products which the firm place on the market, viz., hypodermic tabloids of the pure alkaloid gr. r_{10} , and the same in combination with morphine or strychnine. Solutions of it for oral and hypodermic purposes are also marketed under the name "Ernutin." In these forms only do the makers sell the alkaloid. Tanret's ergotinine has been proved to yield by

decomposition a product called cornutine, a name which has recently been suggested as a synonym for ergotoxine; but this is most confusing and misleading, since they are chemically distinct, physiologically different, and diverse in origin. Cornutine can only properly be applied to the decomposition product of ergotinine, as Tanret, Keller, and Meulenhoff agreed, while ergotoxine is obtained from what is left of ergot after ergotinine is removed.

Notes.

Messrs. May, Roberts & Co., 7-11 Clerkenwell Road, E.C., have recently completed their new showroom, which contains a specimen of each of the bottles stocked by the firm, while a similar range of packed goods occupies another wall-case. One side is fitted as a pharmacy with shopbottles, ointment-jars, etc. Counter-cases, wall-cases, and floor-cases filled with innumerable attractively shown goods occupy the remainder of the floor-space, while above are various carboys, large show-jars, and specie-jars.

The Chemists' Co-operative Wholesale, 36 Camomile Street, London, E.C., have an announcement in our advertising pages in regard to the co-operative movement which they are fostering. We gather from this that those who promise "a reasonable amount of business during the year" will be able to participate in a profit-sharing scheme without any formality of taking shares in the business, the C.C.W. promising to divide their trading profits with their customers according to the orders given to them by the latter.

Messrs. Reynolds & Branson, Ltd., Leeds, have designed a new style of weighing-machine. It is 4 ft. high, and will weigh up to 24 stone. A projecting platform, fitted with lock and key, protects all the loose parts below. The price is 2l. 17s. 6d., and a height-measuring standard, graduated in English or metric system, or both, can be fitted if required. The weighing-machine is handsomclooking, takes up but little space, and is adapted to weighing chemists' customers, many of whom can appreciate the superior accuracy of lever balances over spring weighing-machines.

Boulton Specialities.

"Triple Emulsion" is the name given by Messrs. James Boulton & Co., Crayford Mills, Stratford, London, E., to cod-liver oil, liquid malt, and chemical food for strengthening children. The title is one which the customer can easily remember. The emulsion is pleasant to taste, the oil being well masked. It is put up in 6-oz. amber flats, the label having space for retailer's name and address, and is packed in bright yellow and purple cartons. The price is 7s. per dozen, but the first order of four dozen is charged for as three dozen. "Rosaline" lip-salve is another speciality yielding a good profit. It is supplied either pink or white in colour, and put up in metal push-up cases with blocked untarnishable labels. The lid and front of the box holding a dozen form an attractive advertisement when open. The salve costs 2s. 6d. a dozen, or 27s. a gross. Lanoline toilet-cream is the third line yielding over 100 per cent. profit; the 4½d., 6d., and 9d. sizes costing 2s. 3d., 2s. 6d., and 36s. by taking gross quantities. Messrs. Boulton & Co. will be pleased to answer inquiries.

Dia Malt.

It may not be known generally that new uses for extract of malt have been found in certain branches of technical industry, and for these purposes it is necessary that the extract should be of the highest possible diastasic power, because it is employed as a starch-convetrer. In these cases manufacturers who use the extract have been more discriminate than physicians and pharmacists generally have been, for everything bearing the name "Extract of malt" does not suit their purpose—only the best, and they stick to it. The British Dia Malt Co., Sawbridgeworth, Herts, and 11 and 13 Southwark Street, London, S.E., have for many years been engaged in the manufacture of barley malt for brewers, their methods and machinery exhibiting the most recent scientific developments. For some time they have also manufactured extract of malt for technical purposes, this product being of diastasic value undreamt of by pharmacists, so rich is it; and now they

have embarked upon the production of an extract for dietetic and medicinal purposes. The result is the extract which is to be known and sold as "Dia Malt." A report upon it by Mr. E. F. Harrison, B.Sc., F.I.C., appears elsewhere in this issue. He says of it, inter alia:

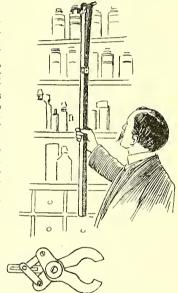
I find the "Dia Malt" to be a pure extract of malt of the highest quality, careful search did not reveal the presence of any foreign ingredient. Its diastasic power is 1392—that is, under the conditions of the test it completely digested practically fourteen times its own weight of starch in half an hour. This is a much higher digestive power than was shown by any other malt extract.

We understand that the company do not at present propose to put up Dia Malt as a proprietary, but they offer it in bulk to chemists through wholesale houses so that they may bottle it themselves, selling it as "Dia Malt," a name which they regard as being inseparable from this product of highly distinctive qualities. They invite inquiries from wholesalers and others who are interested.

A Bottle-grip.

Mr. W. G. Robertson, pharmaceutical chemist, 49 Borough Farnham, has shown us a bottle-grip for use

chemists' shops which he has invented. The grip is an arrangement by which shoprounds can be reached down from a high shelf without resort to a step-ladder or standing on the edge of a partly opened drawer. As will be seen from the illustration, the apparatus takes the form of a pole at the end of which is a scissors-like arrangement, which can be made to act by a reciprocal spring on the side of the pole near where it is grasped by the user. We have tried the invention on We have some bottles in our office, and find that a firm grip is obtained. There is no feeling of G dropping the bottle. The scissors, we may add, are padded so as



to soften somewhat the tightness of the grip. Those who think the invention would be useful to them should communicate with Mr. Robertson.

A Urine-testing Laboratory in a Hand-case.

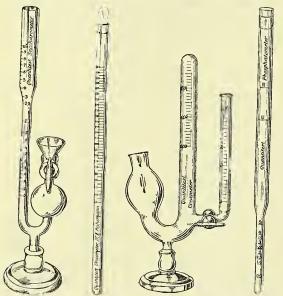
THE CHEMIST AND DRUGGIST, through its publication of "Practical Methods of Urine-analysis," has given in small compass the literature on this subject, the practice of which by pharmacists who have a dispensing connection is found to be of service to medical clients, and indirectly to one's business. What has thus been done for the literature is now done for the apparatus by the Roborat Co., 8 Harp Lane, London, E.C., who put on the market what they call the "Quantitest" case, which contains all the apparatus and reagents for complete quantitative analysis of urine. The following are the main characters of the tests:

UREA.—An improved form of the Doremus apparatus is utilised. The usual method of determination of urea by its oxidation with sodium-hypobromite solution is used. Capsules of bromine and a 60-per-cent, solution of caustic soda are provided for extemporaneous preparation of the required solution in the apparatus itself, a procedure which the chemist will appreciate. Sufficient water is then added to fill the closed central tube, an operation readily accomplished by tilting, and when the apparatus is again cool the side burette is filled with the urine. One c.c. of urine is now allowed to enter slowly by turning the stop-cock, and the volume of evolved gas, when it has cooled to room-temperature, gives the percentage of urea directly from the scale. The operation

is easily conducted, and loss of gas can only occur when the

sample is run in too fast.

Sugar.—Another illustration represents the "saccharometer" for determining the amount of sugar present. Fermentation is the method adopted, 0.5 c.c. of urine being accurately delivered from a neat and specially instructed suction pipette on to the surface of the mercury, half-filling the bulb and U bend. A few drops of yeast emulsion follows, and the level of mercury in the vertical graduated tube is adjusted by tilting to zero. The stop-cock is then turned and the apparatus set aside for about five hours, when the reading of the height of mercury on the scale gives directly the proportion of glucose present. The tube is graduated in twentieths of 1 per cent. up to 1.5 per cent., then in ½ per cents. up to 10 per cent. Fermentation is one of the most reliable methods of testing urine for sugar provided due care



be given to ensure activity of the yeast, and that the urine is not alkaline. The usual messy, tedious, and sometimes un-certain methods of estimation by reduction of Fehling's solution or determination by polarimeter arc obviated by this simple instrument.

UREAMETER.

PHOSPHATOMETER.

SACCHAROMETER. URICOMETER.

simple instrument.

URIC ACID is quickly estimated in a few minutes by taking advantage of the fixation of iodine by uric acid. Carbon bisulphide is first added up to a mark, then a definite quantity of test solution of iodine and potassium iodide, and finally urine until on shaking the pink colour of the iodine disappears from the carbon-bisulphide solution. The reaction is sensitive to one drop of urine, and the amount of uric acid in grams, or fractions thereof, per litre is read off directly on tube. off directly on tube.

off directly on tube.

ACIDITY of the urine to phenolphthalein is determined by adding the indicator to urine in tube filled up to mark U (10 c.c.) and adding solution of sodium hydroxide (1 c.c. representing 10 milligrams of phosphoric acid) until a permanent pink colour is obtained. The amount of acidity as phosphoric acid in grams per litre is given directly from scale.

ALBUMEN.—For this a simple tube is utilised. Diluted urine (5 c.c.) is taken, and the reagent (an acidulated alcoholic solution of phospho-tungstic acid) is added until, after shaking, a faint white cloud persists. The reaction is sharp, and this quick process must be at least more accurate than the Esbach method. Esbach method.

PHOSPHATES are precipitated by magnesia mixture in a specially graduated tube, and the volume of the precipitate measured after eighteen hours. This is one of the tests at which the accurate analyst might cavil, as the volume of prewhich the accurate analyst might cavil, as the volume of precipitates varies according to conditions of precipitation. However, the precipitates are perfectly white and settle but little after the first few hours, so that if always carried out under the same conditions the procedure may be as accurate as the titration of phosphates with uranium nitrate and the seeking of the elusive brown colour of the ferrographic indicator. cyanide indicator.

SPECIFIC GRAVITY .- A combined hydrometer and thermometer enables the determination of the specific gravity of the urine, and at the same time allows reading of temperature for any necessary corrections.

Besides the foregoing an indication of absence or presence of indican is given by the "Indicanometer," while an "Acidimeter" is also included in the case, which is specially adapted for testing the free and combined acidity of the gastric juice. The whole of the tests can be set going in half an hour, and the only subsequent demands are a few seconds each to read the ureameter, saccharometer, and phosphatometer. The methods, while being invariably simple, are quick enough for those who have usually been satisfied with rough and ready methods, and sufficiently accurate to satisfy careful workers. The case is accompanied by a book, compiled by Dr. C. F. R. Weiss, M.A., F.C.S., giving ample instructions.

The "Qualitest" Pocket Test-case contains sufficient booklets (one dozen) of test-papers for a hundred tests each for sugar, albumen, acidity, or alkalinity of the urine, and also a detachable pocket containing a small graduated testtube. A trial of the papers gave clear indications of the presence or absence of the substances tested for, and the case will be useful for indicating whether there is need for further investigation of the urine.

Standard Otto-of-Violet Preparations.

The Standard Tablet and Pill Co., Hove, Sussex, have further extended their range of manufactures to the perfumery department. The first product of their new laboratory is an otto of violet with a remarkably fine odour, true to nature, and of great strength and persistence. The basis of this perfume enters into a series of toilet-articles com-prising otto-of-violet bath-crystals, violet-oatmeal, violetpowder, oatmeal-cream, otto-of-violet soap, tooth-paste, skin-food, tooth-powder, and Poudre de Riz à la Violette. They are all packed in an artistic manner and placed on the market on a protected-price basis. The company will send a sample to any buyer on application.



Christmas Perfume-window.

The above illustration is from a photograph taken by Mr. Manson, chemist, Waterloo, of the Christmas display made by Mr. John H. Robinson, dispensing chemist, 39 Tithebarn Street, Liverpool. It consisted of high-class perfumes, chiefly of French origin, in cases ranging up to 37s. 6d. a case; manicure bases, from 1s. to 21s.; cut-glass, silver-mounted toilet and smelling bottles, up to 12s. 6d.; also a quantity of perfumery in plain bottles. The decorations were drapery (green and gold), artificial flowers and ribbon. The side-window on Mr. Robinson's right (it is he who is standing in the doorway) had the same scheme of decoration and similar contents. The window attracted a good deal of attention and resulted in good business. Mr. Robinson's experience is that the public want good-class stuff and they are willing to pay for it. A pretty box with a silk lining is not so seductive as it used to be. What the public really want is perfumery which has staying power. This works out all the better for the chemist, for if he stocks the better-class perfumes he can get customers and keep them.

Observations and Reflections.

By "Xravser."

The New Schedule

JANUARY 30, 1909

is perhaps the principal, if indeed it is not the only, pharmaceutical triumph of the Poicons and Pharmacy Act of 1908. The percentage scheme is the particular feature which entitles it to this commendation. In the old schedule the term "preparations" was constantly producing anomalies and absurdities, and occasionally vexatious lawsuits. That and the "Armson" case between them had reduced the interpretation of the schedule to the level of guesswork, or, as good pharmacists called it, discretion, with a degree of disconformity in practice which was discreditable, if not dangerous. Strictly speaking, chloroform-water was a poison; the same coughmixture might be a preparation of morphia in the first part, or of opium in the second part; antimonial wine and medicinal compounds containing minute doses of strychnine required signing for, while a very strong solution of corrosive sublimate might be treated as a comparatively innocent preparation. It is too early yet to say whether the percentage method of classifying poisonous preparations will obviate these and the like anomalies without creating new dilemmas; but so far no discovery of anything flagrantly inconvenient has been announced, though we may rely that a number of ingenious critics have applied their most powerful magnifying-glasses to a scrutiny of the new schedule. The C. & D. remarks that Sir Andrew Clark's pill containing 1 of extract of nux vomica in 25 must be signed for, and that lozenges, pills, and tablets which contain belladonna, cocaine, morphine, nux vomica, or strychnine will have to be narrowly watched, are not, it may be presumed, put forward as objections.

The Percentage Device

is such a simple and obvious method of meeting the difficulty that some of us can hardly realise the astonishing fact that it never occurred to us during the more than thirty years while the difficulty was presenting itself. The 1868 Act had not been in operation more than a few weeks before the Pharmaceutical Council appealed to the Privy Council to advise them whether paregoric lozenges, for example, ought to be regarded as preparations of opium. The Privy Council declined to commit themselves, for, as they said, paregoric lozenges might be made of any strength, and the problem continued and waxed more vexatious as the years went on. Our schedule, with all its imperfections, was copied a dozen times and more in various parts of the British Empire, but even in those regions where the Anglo-Saxon intellect has risen to its utmost enlightenment this modification was never thought of. So far as I know, the earliest suggestion of percentage limits was proposed in the report of the Departmental Committee of the Privy Council which considered the sale of poisons in 1902. In both the general report and in the minority report submitted by Mr. Walter Hills it was proposed that preparations of morphia containing 1 per cent. of morphia or more should be in the first part, and that preparations of smaller morphia proportion should fall in the second part. It may be confidently assumed without risk of error that the idea adopted in both reports emanated from the only pharmacist on the Committee. The suggestion thus originated formed the basis on which the Pharmaceutical Council subsequently worked, with the result now embodied in statutory form.

Mr. Herbert Samuel

is a clever young gentleman, but he is not a judge, and if he stated in the course of discussion that it would be illegal for an unqualified person to use the term "pharmacy" to designate his shop, his view would be interesting, but not much more. The High Court is sometimes thought to be unconsciously jealous of statesmen usurping its functions. But Mr. Samuel could scarcely have gone wrong if he limited himself to saving that the use of the word "pharmacy" by a person not a qualified pharmaceutical chemist (for if it is protected at all it is reserved to pharmaceutical chemists only, and does not pass with "pharmacist") was as illegal as the use of the word "surgery" by a person not a qualified surgeon: he was saving what can hardly be disputed, for the applicable words in the Medical Act of 1858 and those in the Pharmacy Act of 1852 correspond exactly. Both words were in use long before either of these statutes was enacted. Murray gives quotations from "Fraser's Magazine," 1833, and from "Blackwood's Magazine," 1842, in which a pharmacy is referred to as a place where medicines were compounded or sold. The earlier English word for such a place was "pharmacopoly," and that, though clumsier, was more absolutely correct, "polein" being Greek for selling.

A Chemical Idyll,

by Dr. H. E. Armstrong, which appears in the January number of "Science Progress," with the superior title of "A Dream of Fair Hydrone," is likely to attract attention; but if connoisseurs of what is called polite literature should be trapped by these tempting labels into a study of the article, the doctor may consider himself lucky if he escapes prosecution for offering something not of the nature, substance, and quality anticipated. article is stuffed full of graphic formulas, which do not readily lend themselves to the excitement of the loftier emotions; and though it is apportioned into "prologue, argument, and epilogue," sub-headings which look promising, the most passionate pilgrim will have to admit that the poetry is elusive. The author aims, apparently, to establish a theory of the formation of water from H₂O by likening the process to the development of the methyls and ethyl from CH₄. Assuming that the O in H₂O is tetrahedral or quadrivalent like the C in methane, the H2O molecule may be regarded as corresponding with the CH, one, which as soon as it is freed from other radicles at once polymerises into dimethyleneor ethene. So hydrone (H2O) combines with itself or its atoms to form water, or di-, tri-, tetr-, pent-, or hexhydrone, the activity of the molecules diminishing the series progresses. Then comes the idyllic part. The poetry of moisture, says Dr. Armstrong, must take its place with that of the poetry of motion when we perceive that the earth will only give her fruit in due season and in due measure when "the fair Hydrone descending from the air above clasps her" (the earth) "in warm and beneficent embrace." And the reader has been fancying all the time that the fair Hydrone was a girl.

The Anti-medical Proverbs

which "The Lancet" quoted as specimens of Spanish irreverence, and to which allusion was made last week, were the following:

Great men are not more ashamed of the sorrows entailed by their faults than are doctors of the deaths of many of their patients.

God preserve you from the lawyer's flourish, the notary's et cetera, and the physician's prescription.

Physicians and surgeons do not attend High Mass, because the buried ery out, "Ah! there goes my assassin."

I quoted a better one than either of these last last week. Others, also of Spanish origin are:

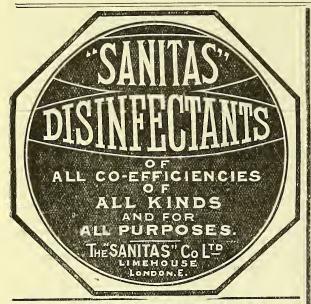
Bleed him and purge him; if he die, bury him.

Take off your hat to the doetor and send him to the

house of your enemy.

The doctor is often more to be feared than the disease.

The last is a French proverb; and Hoffmann, of Hallé, the famous German professor of medicine, put the idea even stronger when he wrote the aphorism, "Fuge medicos ac medicamenta si vis esse salvus."



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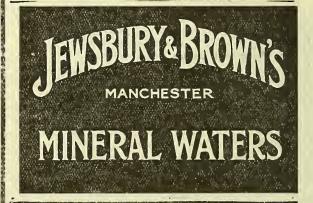
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Company Dentists.

A Bombshell has been fired into the ranks of company dentists by Mr. Justice Swinfen-Eady, who, in the case of the Attorney-General v. Smith, has issued an injunction restraining the defendant company from representing that

they carry on the business and profession of dentistry as successors to Mr. Geo. Chas. Smith, or that they are dentists or dental practitioners, further restraining them from implying that they are registered under the Dentists Act, 1878, or are persons specially qualified to practise dentistry. This decision seems what was wanted in the case of the Pharmaceutical Society v. the London and Provincial Supply Association, and is obtained by looking at the matter from the point of view then presented, but which the House of Lords would not rule—viz., that if a body is incapable of being registered under the Pharmacy Act, it is ineapable of carrying on the business of a chemist. Applied to the Dentists Act the contention is that as a company is incapable of being registered under that Act, it is not competent for it to use the titles or qualifications provided by that Act for registered persons. This was the case as regards chemists' titles, but it was barred through the 1880 decision being in regard to one of several offences included in Section 15, which the highest authorities considered to be applicable to all the offences. The British Dental Association has benefited by the Pharmaceutical Society's experience, and, backed by the Attorney-General, has secured success. We presume that the case will not rest here, for dental companies are numerous, and the legal issue (apart altogether from trading-right) is of sufficient interest to warrant appeal.

The New Act. V.—Its Leading Principles.

THE Winter Issue of THE CHEMIST AND DRUGGIST affords an opportunity of again calling attention to the provisions of the Poisons and Pharmacy Act, which comes into force on April 1. Each of our issues this month has contained an expository article dealing with a new principle which the Act introduces, and it is apparent that those engaged in the business of chemist and druggist are beginning to realise that they must put their houses in order before or by that The Act is not free from difficulties of a legal nature, and the extent of the new obligations which are placed upon pharmaceutical chemists, chemists and druggists, the executors of the foregoing, corporate bodies, and firms in Scotland may not be known precisely until the Act is judicially interpreted. Section 3 contains the chief provisions affecting these classes, and the broad effect of it is to make illegal certain things that all persons and companies do at present, unless they meet the new requirements of the section. That is to say, the requirements of the section are first conditions for persons and companies carrying on the business of a chemist and druggist. Thus the section requires that wherever a chemist and druggist carries on his business, he must in every premises have a qualified person as bona-fide manager, and the name and certificate of qualification of such person is to be conspicuously exhibited in the shop. In cases where a chemist has only one shop, all he has to do is to expose his own examinationcertificate therein on April 1; but if he has been in business before the Act, or passed the Modified examination, or has lost his examination-certificate, he will need to get one from the Registrar, but do not write for one yet. The Pharmaceutical Council is considering what form the latter certificate should take, and we understand that there will be no difficulty for registered persons to meet this new requirement of the law. There is a considerable amount of inquiry as to whether it will be legal for a chemist who has a branch shop or shops to continue these under unqualified management, if his title is not used there and poisons are not sold or dispensed. We have explained that this is very doubtful, and, in view of certain expressions

in the 1868 Act, it appears most likely that the business of a chemist does not, for the purposes of the new Act, consist solely of the sale and dispensing of poisons, but includes at least the dispensing of the prescriptions of duly qualified medical practitioners. That is a view of the matter which can only be decided by the action of the Pharmaceutical Council and judicial interpretation. Whatever "the business" may be, there is no doubt at all that where poisons are sold by retail there a registered chemist must be in charge. bona fide conducting the business. Various propositions have been put forward with a view to an owner or manager dividing his time among several shops, and we need only say in regard to these that it was the clear intention of the framers of the Bill that a man should be manager of one shop only, and we see nothing in the Act which would justify departure from this principle. Indeed, it is strengthened by Subsection 2, which provides that the businesses of deceased chemists may be continued, provided that, in addition to the qualified assistant bona fide conducting the business (as required by the 1868 Act), each shop is bona fide conducted by a registered pharmaceutical chemist or chemist and druggist, according to the title used by the deceased chemist and continued by his executors.

Subsection 4 lays down the conditions on which limited companies and partnerships in Scotland may continue to trade as chemists and druggists. These are required to appoint a registered chemist as superintendent of the company, and his name is to be forwarded to the Registrar under the Act. This superintendent may not act as such for more than one company or partnership in Scotland, but he may manage one shop, and if the company or partnership have more than one shop, each has to be in charge of a registered chemist, whose certificate must be conspicuously displayed in the shop which he manages. Companies and firms in Scotland are permitted to use the title "chemist and druggist," or its equivalent, but not "pharmaceutical chemist," "pharmaceutist," or "pharmacist," provided the superintendent has a seat on the board of directors or is a partner in the Scotch firm, as the case may be.

The Act permits persons registered as chemists and druggists to take, use, or exhibit the title "pharmacist," without incurring the penalty provided in Section 15 of the 1868 Act, and it should be observed that in regard to branch shops of pharmaceutical chemists in which that title is used, the managers must be pharmaceutical chemists. If chemists and druggists are employed as managers, the title "pharmaceutical chemist" cannot be used in any case. It has to be noted that for the purpose of shop-management, apothecaries and registered medical practitioners are outside the purview of the Act: although they may legally retail and dispense poisons, they are not capable of bona fide conducting branch shops of chemists, companies, or partnerships in Scotland.

We have dealt somewhat fully with the Poisons Schedule, which has undergone material alteration in principle, so that a number of preparations which have hitherto been regarded as Part 1 poisons (such as Easton's Syrup), but the place of which in the Schedule has been extremely doubtful, are now definitely relegated to a particular part. The old difficulty as to "preparations" is removed, and with it there has been brought within the Schedule inferentially a large number of preparations the sale of which henceforth is strictly reserved to chemists. Some fresh difficulties are imported by the vicarious wording of certain of the entries, and these may ultimately lead to something more than legal quibbling; but for present use and practical interpretation we printed last week a supplementary list, in which the legal niceties have been ignored. Section 2, which deals with the

sale of poisonous substances containing arsenic or tobacco and its alkaloids to be used for certain agricultural and horticultural purposes, also comes into operation on April 1, but the Privy Council have to issue regulations made under the section and affecting the terms of the Act. Until these regulations are available it is impossible to speak definitely as to what will happen, but there can be little doubt that the illegal practices in regard to these poisons, which have been going on for so long, will not all be legalised. system of licensing seems bound to localise the operations of the persons who are licensed to sell these poisons, and in the meantime it has been urged that chemists should be prepared to prove to the local authorities that the public can obtain the poisons from them, so that there should be no necessity for licensing unqualified persons to vend such poisons in the localities which are now served by registered chemists. Section 5 deals with the sale by retail of hydrochloric, nitric, and sulphuric acids, and soluble salts of oxalic acid, which henceforth must be labelled with the name of the article, the word "POISONOUS," and the name and address of the seller, whether qualified or unqualified.

One interesting problem has arisen since the passing of the Act, which is not dealt with in it—viz., the right of registered persons to use Pharmacy Act titles with a trading name which is not their own. We subjoin extracts which sufficiently indicate the point:

C. & D., January 16. The continuance of trading or firm names is not touched by the Act. Chemists and druggists and pharmaceutical chemists may trade under any name, and attach their titles thereto, so long as their certificates are exhibited in the premises in which they bona fide conduct the business.

P.J., January 1 and 16.

P.J., January 1 and 16.

In our opinion it will be illegal, after April 1, to use the title "pharmacist," except in conjunction with the name of an individual who is registered under the Pharmacy Acts.

Inasmuch as "Jones & Co." are not duly registered as pharmaceutical chemists or chemists and druggists, it is wrong for the title to be used in conjunction with the name of the tion with the name of the firm. . . . If a pharmacist named Brown is the proprietor named Brown is the proprietor of a business carried on under the style of "Jones & Co.," the statutory titles "pharmaceutical chemist" and "pharmacist" should only be used in conjunc-tion with his own name, and that name must appear on all poison labels.

From inquiries which have been addressed to us we gather that it is assumed that our contemporary's opinions are authoritative, by which we mean that they represent the views of the Council. We do not for a moment think so, for the practice of the Council in administering the Acts has been to regard the use of trading names in association with the statutory titles of the persons owning the business not to be ultra vires, and there is nothing in the new Act which warrants any change in this administrative practice. Three ex-Presidents of the Society traded in that way. Moreover, the fact that the Council, in its own Pharmacy Bill, sought powers (not embodied in the new Act) to enforce the opinion or principle stated by our contemporary is sufficient evidence that these powers do not exist in the present Acts.

English Cascara Sagrada.

THE native home of Rhamnus Purshiana, DC., the plant which yields the true "sacred bark" cascara sagrada, is on the Pacific slope of North America from Northern California northwards to Oregon and Washington. unofficial species, R. californica, Escharch, abounds in the countries south and south-east of these districts. The official plant varies in size from a shrub to a small tree, the latter yielding about 10 lb. of bark, and it is computed that 100,000 trees are killed annually to cope with the demand for cascara sagrada. The "Kew Bulletin" (1908, No. 10) contains an account of trees of R. Purshiana raised from seed sent by Mr. Luther Burbank, and sown at Kew in December 1891. The seeds were collected in Sonama Co., California, and germinated at the beginning of the following March. The largest tree is now 21 feet high, 18 feet in the spread of its branches, and the trunk 24 inches in circumference. The soil in which they are growing is shallow and of a dry sandy nature, and planted in richer, deeper soil the trees would no doubt be considerably larger. The bark is distinct and rather pretty by reason of numerous longitudinal light-coloured fissures. Mr. F. R. S. Balfour recently drew the attention of Kew to the rapid destruction of the wild source of supply. Mr. Balfour, in sending some seed of the plant, mentioned among other particulars that:

The trees are becoming rapidly exterminated except in remote places, and it occurs to me that an industry might be established in Western Ireland and Scotland for the growth there of the tree, which ought to flourish. I found it up to 40 ft. high.

From the way the plant has grown at Kew it seems that it may be introduced on the western coasts of the British Isles and prove of commercial value. The species is quite hardy at Kew, all the trees passing unprotected through the great frosts of February 1895 without injury, and a severer test is not likely to be experienced. The trees flower regularly in May, but the fruits, which ripen in August, are not produced regularly or in quantity, and the fertility of homegrown seeds has not yet been tested. However, seeds recently imported from the United States have turned out badly, only three of the seeds sent by Mr. Balfour germinating, while another consignment distributed to private gardens in the West of Ireland and Scotland appear to have been unfertile. The plant can probably be propagated by means of cuttings. Plantations could apparently be treated as coppice, as one of the Kew trees, seventeen years old, which was sawn off level with the ground has sent up a crowd of shoots from the stump. A quantity of dry bark $(5\frac{3}{4} \text{ lb.})$ from this tree was sent to the Wellcome Chemical Research Laboratories in February last for examination, to see whether the English-grown drug equals the native bark. Dr. H. A. D. Jowett's report states that "the present extract is indistinguishable in action from that made from American bark." Further, Dr. Jowett in his paper (Wellcome Chemical Research Laboratories, No. 47) states that the only definite principles certainly isolated from cascara sagrada is emodin and also a small amount of a substance isomeric with emodin, but insoluble in ammonia, and melting at 183° C. Physiological experiments show that emodin is not the active principle, as it has very little, if any, of the characteristic action of the drug. The active principle or principles producing the aperient action are contained in that portion of the alcoholic extract which is soluble in water and precipitated by lead subacetate. Further, it is contained in that portion of the regenerated lead-subacetate precipitate which is soluble in ethylacetate. According to Tschirsch and Pool (C. & D., 1908, ii., 324) the activity of cascara. extract depends chiefly on the combined oxy-methylanthraquinones, of which emodin is one. Glucose and a substance which yields syringic acid on treatment with acids have been obtained from the drug, as also a fat which yields the alcohol rhamnol, but all attempts to obtain the bitter principle of cascara, or derivatives of it, in crystalline form were unsuccessful. No difference could be observed in the chemical characters between one-year-old and three-year-old bark, and an examination of the barks of R. Purshiana and R. californica gave, except for slight differences in amount of extractive, identical results. The specimens of R. californica at Kew are hardy evergreen

bushes, and would not be likely to furnish much bark, nor do they appear so euitable as the true cascara sagrada tree for cultivation in the British Isles. Three distinct forms of *R. californica* are represented at Kew—the type, var. tomentilla, with very tomentose young wood and leaves, and var. oleifolia, with smaller leaves than either of the preceding. The monograph concludes by stating that the evidence given seems to indicate that the cultivation of the species is worthy of consideration, a footnote stating—

With regard to the market-value of cascara bark, it is reported in The Chemist and Druggist of December 5, 1908, that fifty bags of good, thin bark, imported in 1906, were sold at the rate of 37s. 6d. per cwt. The price, however, has been as low as 26s. and as high as 50s. per cwt.

The present price for last year's crop is still 37s. 6d., but the highest price paid within recent years was 90s. in September 1903. The paper is a timely one in view of the fact that afforestation of the British Isles is now being seriously considered by the Government with a view to granting aid. If this is done, a Government Department—the Board of Agriculture in all likelihood—will be associated with the work, and it is to be hoped that a tree of such economic value as Rhamnus Purshiana will not be overlooked.

Dispensing Proprietaries.

At their last meeting the Trade Committee of the Glasgow and West of Scotland Chemists' Association discussed the question of dispensing in an unaltered condition but in smaller quantities than the original packages Antikamnia tablets, Purgen, Foramint tablets, and similar proprietary preparations. In Alpe's "Handy Book on Medicine Stamp Duty," p. 110, the statement concludes with the sentence:

And, further, the regulation obviously does not extend to pills, powders, lozenges, or plaisters.

This sentence refers to the dispensing of preparations per se—that is, without admixture with anything else. The Trade Committee came to the conclusion that "it seems as if proprietary tablets can in no case be sent out unstamped even if prescribed by a doctor." This is exactly what is said in the C. & D. Diary, 1909, p. 223, under the paragraph "Dispensing," but it is interesting to recall the circumstances which educed the official ruthority for that statement. It is well known that the Board of Inland Revenue permit dutiable medicines to be supplied unstamped by the makers or first vendors to chemists and druggists for the purpose of dispensing the prescriptions of qualified medical practitioners, and that if any such preparation constitutes a "part of a medicine dispensed" the mixture need not be stamped, e.g.:

Syr. hypophosph. co. (Fellows) ... 3ij. Aq. chloroformi ad 3iv. Ft. mist.

Sig.: One teaspoonful thrice daily, immediately before meals.

If, however, the syrup itself is dispensed by prescription it must either be supplied in the original stamped bottle, or, if taken from a bottle supplied for dispensing purpores only, it must bear a stamp according to the price charged. The Board of Inland Revenue has not in practice made any general distinction as to what medicinal preparations may or may not be supplied for dispensing purposes only. There are a few instances in which permission has been refused, but it has been granted in respect of many tablets and pills. Some years ago (C. & D., May 24, 1902, p. 80) the question arose as to whether in a medical practitioner's prescription for twelve Antikamnia tablets (one to be taken every three hours to relieve pain) and twenty-four pills of quinine

sulphate and reduced iron (one to be taken thrice daily after food) the tablets could be dispensed unstamped as "part of a medical prescription." An alternative question put to the Board of Inland Revenue was:

Can I dispense in such a case as the foregoing from an unstamped packet supplied for dispensing-purposes only, provided I stamp cach sale?

The Board of Inland Revenue replied that in such circumstances they would have no objection to the dispensing in accordance with the prescription of a fully qualified physician from an unstamped package, provided that the medicine was stamped before sale with the duty applicable to the price at which it was sold.

Our Winter Issue Cover.

The illustration at the top of the front cover of this issue is descriptive of the emptying of a revolving "blackash" furnace. In the second stage of the Leblanc process for making washing-soda, the salt cake produced by interaction of common salt and sulphuric acid is mixed with chalk and coal and fed into a revolving cylinder, which is heated by flames and hot gas passing through the centre from the side furnaces. The end of the process is indicated when flames of carbon monoxide appear, then the molten mass is emptied by turning the cylinder, the contents flowing into iron wagons, which are drawn by a wire rope below the aperture. This is the scenc depicted. The furnace and its surroundings, which are of a dull slate colour, are lit by the ruddy glow from the flaming furnaces. At the moment the pasty mass leaves the gaping mouth of the cylinder, thousands of tiny yellow flames spurt forth, and the incandescent sodium tinges the perspiring faces of the workmen a ghastly yellow. The picture was drawn from photographs supplied by the United Alkali Co., Ltd., and shows the operation as we have seen it at the Allhusen Works, Newcastle-on-Tyne. The picture is employed in the present connection as typifying industrial chemistry, while the smaller cameos below typify analytical, dispensing, and manufacturing chemistry (pharmaceutical), to all of which The Chemist and Druggist is a medium of intelligence and publicity second to none in the world.

Scotch Co-operators and the New Act.

We learn from the "Co-operative News" that the directors of the Abcrdeen Northern Co-operative Co. have been in correspondence with the General Secretary of the Co-operative Union regarding the Poisons and Pharmacy Act. The directors do not approve of the compromise effected by the Union. The "News" says:

The Bill, as originally drafted, would have made it illegal for any co-operative society to carry on the business of chemists and druggists unless where there was a fully-qualified chemist on the board of management. The Bill failed to pass in that form, and, eventually, a compromise was come to between the Pharmaceutical Society and the Union. Under that compromise a co-operative society which has not a chemist on its board may sell drugs, but such societies may not style themselves "chemists and druggists." The directors of the Northern forwarded to the Scottish Section copies of the correspondence with the General Secretary, and intimated that exception was taken to the compromise, as this would be injurious to the interests of the societies carrying on such business. At the United Board meeting Mr. Gray's explanation was accepted by all the members except Mr. Bisset; and, apparently, in view of this, the Sectional Board agreed to communicate with Mr. Gray before coming to any decision on the subject.

What the Aberdeen company wants, we gather, is a common agreement among such societies as to the titles they should adopt in carrying on their drug-branches. It seems to be recognised that they cannot now do as they please, and this pitiful plight is somewhat amusing, considering how big co-operators think themselves.

"It Pays to Pay."

The small company present at the social evening held by the London Chemists' Association on January 21 illustrates the moral of the above phrase. An excellent programme attracted five members, including the Chairman and two musical contributors. Of the remaining twenty friends present nine were artistes, and two others Press representatives. Contrasted with a similar function held recently by the Chemists' Assistants' Association, at which a merry party numbering two hundred forgathered to hear no better an entertainment, the sole-difference in attractive influence would appear to be the shilling ticket in the second instance, the holder of which evidently wanted to get his money's worth. Hence the moral.

Opium in China.

The Chinese correspondent of "The Lancet" (January 16, p. 206) gives his view on the opium-traffic in China, which practically confirms the information we published in our previous issues (C. & D., 1908, II., p. 826) as to the apathy of Chinese officials in regard to the prohibition of opium-smoking. The article also states:

Meanwhile the sale of anti-opium pills (mostly containing morphine) is being actively pushed by foreign and native druggists and all quack vendors, and by order of his Excellency Yuan Shih K'ai (the most famous official in the Empire) the Anti-Opium Bureau has adopted an official pill which is being issued to many smokers in the capital.

The correspondent, however, does not state whether this official pill contains any morphine, and it is difficult to see how the sale of such a pill will be reconciled with the new conditions which came into force on January 1 (C. & D., January 9, p. 55).

Cape Proprietary-medicine Tax.

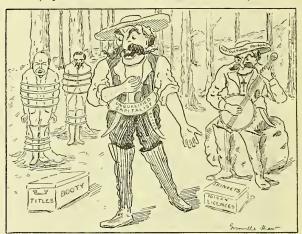
The Cape Stamps Act and the confusion which has followed in its train continues the uppermest topic among the chemists and druggists of the Colony, several of whom give expression to their views in the "South African Review." "Spes Bona," writing facetiously in that journal, states that the average legislator, not knowing the different grades of proprietary medicines, called in the aid of a local gentleman—a veritable Pooh Bah, who, while professing to represent the opinion of the bona-fide retail chemist, did nothing of the sort, being ruler of the Cape Drug Trust, a combination of the wholesale druggist firms. "Spes Bona" maintains that this gentleman made his own little law on this intricate and contentious subject by making it conform to the interests of his own business against those of certain bona-fide medical firms who have wellknown branded preparations. "Commerce," another writer, stigmatises the Bill as a fraud founded on interested scheming, and hopes steps will be taken to obtain a revision of the Act. He illustrates how the Act works in the interest of the local drug-test, citing the case of vaseline, a 6d. bottle of which costs 8d., or 25 per cent. stamp duty (this article has already paid 25 per cent. Customs duty). If objection is raised, the customer may be told, "You can have our bland and emollient petrol salve, which is really just as good, for 6d." In other words, he believes the Act is a direct incentive to substitution, and the Government, who were told how to frame the Bill and were doubtless promised revenue, have undoubtedly been hoodwinked.

Mr. R. Macgregor, chemist, Bruntsfield Place, Edinburgh, has disposed of his business to Mr. A. A. Murray.

Messrs. S. Lambert & Co., 14 Mincing Lane, E.C., have received an unsigned cablegram from Messina stating that the firm of "Fratelli de Pasquale & Co." has perished and that "letter follows."

The Poison Band-olero.

(A pessimistic view of the modern Bandolerc.)



Gallant foemen, pharmaceutists, Pardon if we bring confusion To you all, but please permit us To explain why we are here. We're intent on something handsome. Here a title, there a poison And your friends we hold for ransom Till you've paid; we keep them near. We're the Poison Band-olero, the Title Band-olero, We rule the Commons and we claim As ours whatever comes our way-Sheep-dip or title, anything That a chemist fellow Thinks he has right to-so put your kingdom under our In Nottingham our castle's set, And Court we hold in Worcester town; At gay Camlachie we have met; Our tribesmen hail from dale and down. We are waiting and watching for weed-killer, sheep-dip; Give us insecticides, we are not shy. Shovel up arsenic, ladle out nicotine; The Public demand it; they'll get it-and die!

The Week's Poisonings.

SIX fatalities with poisons have been reported this week up to Wednesday. The deaths were caused by Part II. poisons in three cases, and in one instance by a poison in Part I. of the schedule, while two unscheduled poisons were used in the remaining two instances. Alfred E. Methuen committed suicide in a City office by taking prussic acid (p. 137).—A Sandiacre bricklayer, named William Johnson, was found in a field with two empty 1-oz. bottles of laudanum by his side. An emetic was administered, but he died a few hours afterwards.—Suicide during temporary insanity was the verdict on Annie Burnett, the wife of a Reading dentist, who poisoned herself with oxalic acid.—Annie Coulton (29) died in Newcastle Infirmary from pneumonia arising from carbolic-acid poisoning, a verdict to that effect being returned at the inquest.— Mystery surrounds the death of Samuel Payne (61), a Bacup quarryman. Although the analyst was unable to find any trace of morphine, opium, chloroform, or chloral in the stomach, medical evidence contended that death was due to narcotic poisoning. The jury returned a verdict that death was due to a narcotic poison, probably taken while of unsound mind.—The dead bodies of a young married woman named Trippas and her four months' old child were dis-covered in a locked-up bedroom at Edmonton on Wednesday. By the side of the bed was a cup that still contained some spirit of salt and some bread and butter on which some phosphorus paste had been spread.—The usual verdict was returned on Louie Ralph, who, as stated last week, expired in the street at Kentish Town. Carbolicacid poisoning was the cause of death.

Extending a Proprietary.

By Thomas Russell.

V.-Newspaper Advertising.

WE have now to deal with the points which have to be thought out before starting on a campaign of advertising. The points vary with the article offered. Take an ointment as an example. Before we begin to advertise it, let us consider whether we want to sell it for grown-up people or for the nursery, whether for healing wounds or improving the complexion. The advertising must be planned accordingly. If we are advertising a soap, what are we trying to do? To capture the trade of people who hitherto have used just any soap that came along, or to convert to the use of our soap the users of some other definite brand?

Both plans have been worked successfully.

In selecting a definite policy of advertising, what one really tries to discover is the line of least resistance. It makes for economy in advertising. Having got the line, we must write each single advertisement so as to carry the policy a little further. Each advertisement must be complete in itself, but each one must advance some new point and develop the arguments based upon that point to a One should not write each week's advertisement as an isolated effort. Much money is wasted on advertisements that are individually excellent, but do not hang together. The cumulative efficacy of advertising is highly increased where a series of announcements leads the reader on and on.

In order to make the most of a continuous policy two things can be done. One is to cultivate an essential unity in the appearance of successive advertise-

Importance of ments in a series, and the other is to arrange, if possible, that one's advertisement shall always appear in exactly the same position

in the newspaper. It is usual to say that an advertisement should be placed next to news in order to give it a maximum effect; but if the advertisement always appears in the same place, and is always well written, it very soon comes to be looked for and read. A retail advertiser in Kent-not a chemist—always has an 8-in. advertisement in one corner of his local paper. It is not next news, but it is almost news in itself, because his advertisements are so well written. I have watched this man's work for years, and seen him grow from the keeper of one shop to the keeper of four. If we can give sufficient distinctiveness and an ordered policy to our advertisements, position next to reading-matter becomes, after a week or two, a matter of indifference, so long as the position is always the same. As there is generally an extra charge for placing an advertisement next to news, an economy here presents itself.

Of course, the typographical composition of an advertisement is more or less a technical matter. Getting an advertisement read is purely a ques-

tion of making it easy to read, and if How to Use you will be at the trouble to find some Type. more or less lengthy statement that is

printed entirely in capital letters, and note how long it takes you to read it, and how long you require to read a similar number of words printed in the ordinary way, you will probably be very much surprised to find how much longer it takes to read capital letters than it does to read this type. Not only are the prominent lines in an advertisement easier to read if they are set in a large size of capitals and small letters than if all in capitals, but they gain distinctiveness, because nearly all the advertisements in the paper will have their display lines printed in capitals only.

It must not be believed, however, that the portions of an advertisement that are printed in large letters are the only portions that matter. Every line of an advertisement costs money, and every line of it matters. Not a single sentence should be passed until it is not only as well written as it can be written, but also as well printed as it can be printed. The portions of the advertisement to be printed in large letters should be those which, if the reader reads nothing else, will tell him a certain story. This is technically called the "eye-effect." If the words which give this are properly chosen the rest of the advertisement will be read for their

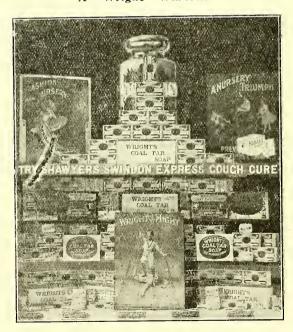
It is impossible to print all the arguments in favour of any speciality, or of any other article, in every single newspaper advertisement. If you took a whole page of the local paper, probably you could find room to say all the things you could think of in favour of the speciality you have invented. But it is doubtful whether anyone but yourself would read it all. An eminent advertising specialist said to me the other day that only two people ever read a full-page advertisement through—the man who writes it and the proof-reader. This is a paradox, because plenty of advertisers have used full-page announcements and got a profit out of them. But like many other

One Thing at a paradoxes it contains an essential truth. We One Thing at a must make it easy and unfatiguing to read our advertisements. Each advertisement of a chemist's speciality should deal with one point—deal with

it tersely and as completely as possible, allowing for the impatience of the readers and the expensiveness of newspaper space. If the speciality has a number of uses, each use should be treated in turn. For instance, if it is a medicine that cures a number of different things it may be proper to enumerate all of them which it cures somewhere in each newspaper advertisement, but the main part of each newspaper advertisement should be given to one of the things which the medicine cures. As in directions for use, so in newspaper and other advertisements, one ought always to try to give a reason for every statement. enough to say that a given preparation is the most wonderful remedy that ever was discovered. You could say that just as easily if the bottle only contained coloured water or the pills nothing but sugar. Our speciality is assuredly a good one; assuredly do we know why it is good. It is not enough to tell the reader that in certain circumstances he needs our speciality. Much better help him to recognise the circumstances in which he needs it. If you advertise a medicine give the reader a help to diagnosis. Describe the symptoms which call for the medicine; do not merely name the disease which it cures. Plenty of people have St. Vitus' dance, and think they have incipient paralysis. Plenty of people have indigestion, and think they have heart-disease. Headache may need phenacetin to cure it or it may need eyeglasses.

The next article will deal with organising the sale.

A "Wright" Window.

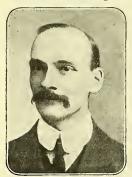


The above engraving is from a photograph sent to us by Mr. John J. Shawyer, 12 Wood Street, Swindon. It almost explains itself, but the point which is novel to us is the attractive and splendid effect produced by the specie jar at the top.

Winter Session of Chemists' Associations.

Association Presidents.

CARDIFF chemists held high holiday on Wednesday, in so far as the annual meeting of the local Pharmaceutical Association



MR. GERHOLD.

was held that day, and in the evening the members dined together and had several distinguished guests. Mr. Henry Archer Gerhold, the new Presi-Archer Gerhold, the new President, was in the chair. Mr. Gerhold was apprenticed with Mr. Alfred Coleman, of Cardiff, for three years in 1839, and after that served a year as improver with Mr. Robert Drane, also of Cardiff. Then he journeyed south and put in a useful two years with Mr. H. R. Browne, of Eastbourne. He left there to come to bourne. He left there to come to Muter's, and passed the Minor examination in October 1895. Then he had two years with Mr. E. Whiston, of Bath, and eighteen months with Mr. F. Wilde, months with Mr. F. Wilde, Brompton Road, London. This

completed his record as an assistant, for Mr. Drane gave him at that time the refusal of his branch business at 36 Windsor Road, Penarth. He bought it in March 1900. From the start of the Cardiff Association Mr. Gerhold has Leen a member of it, and served for a year as Secretary. The social functions and pienies were a real success under his guidance, and the presidency now testifies his confrères' appreciation of his ability to lead.

Brief Records.

Portsmouth.—Mr. T. A. White, Pharmaceutical Chemist The Elm Grove Pharmacy, Southsea, is sending a "notice to the whole craft in the district" calling a meeting for February 3, 3.30 p.m., at the County Club, Kent Road, Southsea, when a proposal will be submitted for the formation of a Chemists' Association.

Leeds Chemists Travel. - Mr. S. R. Mundell, a member of the Council of Leeds Chemists' Association, took his fellow-members from "London to Rome" by means of a lantern-lecture at the Grand Restaurant, Boar Lane, Leeds, on January 20. Mr. F. Pilkington Sargeant (President) presided over an audience which included several ladies. The reminiscences of the holiday excursion proved highly interesting.

Bradford Chemists' Association .- "The Devil amongs the Botanists" was the subject of a discourse by Mr. A. E. Benney at a meeting of the Bradford Chemists' Association on January 21. Mr. Gordon presided, in the absence of the President, and there was a good attendance. The lecturer spoke of fungi and poisonous plants, his remarks being interspersed with interesting and amusing anecdotes. The annual conversazione, which had been fixed to take place on February 2, is to be held on February 9 at Bonnet's Café.

Liverpool Chemists' Association.—The nnual meeting,

Liverpool Chemists' Association.—The innual meeting, which is to be held this week (January 27), is of more than usual interest, as the Council is to be reduced to ten members, including the President (Mr. Wokes). The candidates are Messrs, A. C. Abraham, T. F. Abraham, A. Steen Barr, A. S. Buck, H. O. Dutton, J. T. Hornblower, G. V. C. Last, P. H. Marsden, L. M. Parry, T. F. Percival, J. H. Robinson, J. J. Smith, Dr Symes, T. S. Wokes, and H. Wyatt. The members have been asked to vote for nine of these. At the same have been asked to vote for nine of these. At the same meeting it will be proposed that the Vice-President, Secretary, and Treasurer will also be ex-officio members of Council.

The New Poisons and Pharmacy Act was treated by Mr. W. B. Brackenbury, of Middlesbrough, at a meeting held under the auspices of the Teesside Chemists' Association at the Grand Hotel, Middlesbrough, on Thursday evening, January 21. Mr. J. C. Thompson (President) was in the chair. Mr. Brackenbury's remarks were followed with the keenest interest. A discussion followed, Mr. Brackenbury being thanked. The President announced that February 11 had been fived for the date of the annual dinner and that Mr. Herbert Samuel, M.P., who had so ably assisted the Bill in its progress, would be present as the guest of the Association, supported by Mr. W. S. Glyn-Jones.

Exeter Association of Pharmacists.—A meeting was

Gadd, there being also present Messrs. P. F. Rowsell, E. Lemmon, J. Hinton Lake, J. W. Lake, T. C. Milton, D. Reid, J. Harris, F. Sloman, and F. W. Vinden. A discussion

took place on the Poisons and Pharmacy Act. The opinion was expressed that the Council of the Pharmaceutical Society are to be congratulated on the success which has attended their negotiations with the Privy Council. A resolution was passed that the name of the Association be altered from that of the Exeter and District Association of Chemists and Druggists to the Exeter and District Association of Pharmacists. Mr. Courtney Sloman was elected a member. It was decided to hold a dinner on March 24, the arrangements being left to a sub-committee (consisting of the President, the Hon. Secretary, and Mr. Milton), who will report at the next

North Kent Chemists' Association.

THE monthly meeting of this Association was held at the Freemasons' Hall, New Brompton, Gillingham, on January 20. There were present Mr. A. Goldthorpe (Plumstead), President, in the chair; Mr. A. J. Wing (Woolwich), Vice-President; Mr. A. Stooke (New Brompton), Hon. Treasurer; Mr. R. Feaver Clarke (Gravesend), Hon. Secretary, and about thirty other registered chemists from Woolwich, Dartford, Northfleet, Gravesend, Rochester, Chatham, New Brompton, Sittingbourne, and Maidstone, forming the largest meeting held since the formation of the Association.

Poisons and Pharmacy Act. - Mr. A. E. Hobbs (Tunbridge Wells), member of the Council of the Pharmaceutical Society, attended to take part in a discussion on the new Act. Mr. Hobbs first of all pointed out the difficulties which the Society had to encounter during the passage of the Bill through the Houses of Parliament; but now that it has become an Act he cmphasised the importance of all registered chemists making full use of the advantages it gives to their craft, and uniting in loyally abiding by and carrying out the provisions therein. During the discussion which followed, Mr. J. E. French (Sittingbourne) gave an instance of an application having already been made by an ironmonger to a local authority in Kent for a licence to sell poisons. It was pointed out that a licence could not be granted before the Act came into force, and before the conditions under which such licences could be granted had been approved and authorised by the Privy Council. Mr. Hobbs was heartily thanked for his attendance and address. After the meeting Mr. A. Stooke entertained all present to high tea, his hospitality and kindness being greatly appreciated.

North=East Lancashire Chemists' Association.

A LECTURE followed by a whist-drive was given before this Association on January 21 at Blackburn. Mr. E. Highton was M.C., and those present included Mr and Mrs. R. L. Gifford and Miss Gifford, Mr. Wm. Holt (President) and Mrs. Holt, Mr. W. Holt, jun., and the Misses Holt, Mr. and Mrs. C. A. Critchley, Mr. Thos. Cutchley, J.P., Alderman R. Shorrock, J.P., and Mrs. Shorrock (Darwen), Miss May Shorrock, Ph.C., Mr. John and the Misses Yates, Mr. McMyn, Mr. and Mrs. E. Highton, Mr. Tomlinson, Mr. and Mrs. Lomax (Darwen), Mr. W. Wallace, Mr. Openshaw, Miss Midgely, and Mrs. Grim-

Mr. F. Pilkington Sargeant, F.C.S., Ph.C. (Leeds), gave a lecture entitled

THE CHEMIST IN LITERATURE.

Mr. Sargeant said that fiction, even more than history, reflected the minds and manners of men, and it is possible to learn something of what the world thought of chemists by the study of general literature. History affords but little information as to the character of the chemist, and it is not surprising to find that pharmacy plays such a small part in fiction. Where chemists are introduced into fiction they occupy quite subsidiary positions in the story. It may be that the chemist's business tends towards personal isolation, or even that the virtues of the chemist are not sufficiently pronounced to make him a great hero, or his vices sufficiently prominent to make him an ideal villain. On the other hand, the chemist takes both himself and life too seriously to create a character fitting for comedy. The name of chemist is generally associated with hard work and that superiority which is, unfortunately, assumed by those who pass examinations. If chemists, as a class, studied literature more thoroughly, they might

not be so narrow in their views. Their intellects, already trained, would find greater scope, and they would overcome that petty parochialism which is the bane of chemists, individually and collectively.

Mr. J. H. Beacock (Leeds) then gave select quotations dealing with chemists from Richard Steele, Dickens, Albert

Mr. J. H. Beacock (Leeds) then gave select quotations dealing with chemists from Richard Steele, Dickens, Albert Richard Smith, Rudyard Kipling, Bret Harte, and Gilbert K. Chesterton. He concluded with an interesting ditty on "Don't Worry," brought specially up to date for chemists and druggists. To glean the trend of the piece we append the initial and last verses:

THE WORRYING CHEMIST.

The sun will give out in ten million years more,
It will sure give out then if it doesn't before,
And he worried about it.
It would surely give out—so the scientists state,
And they prove it in many a book he had read,
And the whole mighty Universe then would be dead.
And he worried about it.

Chemists say the word "pharmaeist" is not worth a jot, But they never worried about it.
It is chemist and druggist they ought to have got,
If they had worried about it.
But Glyn-Jones came and said,
"You must surely perceive,
That a lot of good things you are bound to receive
If you have plenty of faith; then believe, do believe,
And don't worry about it."

Mr. Thos. Critchley, J.P., proposed a vote of thanks to Mr. Sargeant and Mr. Beacock for their contributions. He thought chemists are getting more sociable, and they would extend in this direction.

would extend in this direction.

Mr. E. Highton and Mr. R. L. Gifford also spoke. The latter said there never was a time in the history of pharmacy when it was so necessary that chemists should be something more than interested in, and absorbed by, their daily calling. Chemists must evince a wider interest in their general conditions and circumstances, and adopt a dictatory attitude towards the authorities if necessary.

The whist-drive was then proceeded with.

Cardiff Pharmaceutical Association.

A MEETING of this Association was held at the Angel Hotel, Cardiff, on January 27, when the newly elected President (Mr. H. A. Gerhold, of Penarth) occupied the chair. The Presidential address which he delivered referred to

THE POISONS AND PHARMACY ACT,

the origin of which he attributed to the persistent agitation carried on by the manufacturers of agricultural and horticultural poisons. In the course of his remarks Mr. Gerhold said that to his mind the minority in the Pharmaceutical Council were the only true representatives of the chemists throughout the kingdom. The inclusion of the word "pharmacist" was, he believed, largely duc to their efforts, as also the expression of opinion given by Mr. H. Samuel in reply to the question by Mr. Snowden on the restriction of the use of the word "pharmacy." In his (Mr. Gerhold's) opinion there were advantages in the new Act which would become more apparent as time went on. The provision that every chemist and druggist must exhibit his name and certificate of qualification conspicuously in his business premises raised an interesting question as to what is the certificate of qualification. He had no doubt that it meant the Minor certificate, but he saw that other people did not consider that to be the proper one, but the diploma of membership that one got on paying a guinea a year to the Society. He held a firm belief in the future of the pharmacist if he would only hold by the principle that "unity is strength." Only by means of such associations as theirs is progress possible.

Mr. Joseph Reynolds proposed a vote of thanks to the President for his excellent and opportune address, which Councillor Jabez A. Jones seconded, and it was heartily accorded. Similarly Mr. Reynolds (ex-President) was thanked for his unfailing tact, kindness, and courtesy during his year of office. Mr. J. D. Jenkins (retiring Secretary) was also very warmly thanked.

Festivities.

A Thirtieth Anniversary.

THE thirtieth annual dinner of the staff of Messrs. James Woolley, Sons & Co., Ltd., took place at the Grand Hotel, Aytoun Street, Manchester, on January 23. Nearly one hundred guests were present, including the whole of the directors. The toast of "The Company" was proposed by Mr. Tyson, supported by Mr. Twining, and replied to by Mr. George S. Woolley and Mr. C. A. Johnstone. An admirable musical programme, provided almost entirely by members of the staff, entertained the guests during the latter portion of the evening.

Amidst the Firs.

A Conversazione of the Bournemouth Pharmaceutical Association was held at the Gervis Hall Restaurant on January 20. Mr. J. A. Haynes (President) and Mrs. Haynes received the guests, and included in the gathering of seventy-five present were Mr. S. and Miss Hardwick, Mr. F. E. and the Misses Bilson, Mr. J. H., Mrs., and the Misses Williams, Mr. and Mrs. J. H. Scampton, Mr. R. C. Andrews, Mr. W. W. Wilkins, Mr. Adamson, Mr. and Mrs. F. Rose, Mr. S. J. Billing, Mr. F. W. Hornby, Mr. and Mrs. A. G. Simpson, Mr. C. F. R. Pars, Mr. and Miss Gale, Mr. A. and Miss Worth, Mr. and Mrs. W. E. Curtis, Mr. and Mrs. J. H. Hughes, Mr. J. A. Toone, Mr. H. Lewis, Mr. R. Robinson, Mr. Aitken, Mr. and Mrs. Patrick, Mr. E. Allen (British Drug Houses, Ltd.), Mr. C. J. and Miss Reid, Mr. W. A. Bingham (Hon. Secretary) and Mrs. Bingham. Mr. J. H. Scampton acted as M.C., and the musical programme was excellent.

At "The Horns."

Although the entertainment provided by the Hon. Secretary of the London Chemists' Association (Mr. J. Wellesley Douglas) can be truly designated musical, the social portion was not greatly in evidence, as only about twenty-five foregathered at the Horns, Kennington, S.E., on January 21. The other members present were Messrs. J. C. Pentney (in the chair), Lusher, Walden, and Talintyre. The nineteen items on the programme were all excellently rendered. The accomplishments of Mr. Harold Craxton at the piano, Mr. J. Wellesley Douglas on the violin, and Mr. Sydney Jamieson in song are too well known to London chemists to require further description. Mr. Douglas Bull gave "The Trumpeter" and "Echo," and Mr. E. W. Mission sang "So Fair a Flower" and "O Vision Entrancing"; while Mr. Leonard Howard's recitations were given with fine effect. The lady artistes were Mrs. Wellesley Douglas, Miss Emily Rasey, and Miss Lilian Walden, who were all in good voice. The accompanists were Miss E. C. Newman and Mr. W. J. Talintyre.

Whist.

The annual whist-drive of the Isle of Thanet Chemists' Association was held at the Victoria Hotel, Ramsgate, on Thursday, January 20. A fairly large company assembled from Margate, Ramsgate, and Broadstairs. The first prizes were won by Miss Schooling and Mr. Rose, and the "chance" prizes by Mrs. Edmunds and Mr. Snow.

The staff and friends of Boots Ltd., at 25 Above Bar, Southampton, to the number of about sixty, held a whist-drive and social evening at the Queen's Restaurant on January 20. The ladies' prizes were gained by Mrs. Brown, Miss Wills, and Miss Clay, while Messrs. Millward, A. Fisk, and Rouen carried off the gentlemen's awards—all in the order named. The arrangements, in the hands of Messrs. W. F. Fryer and W. J. Fisk, were admirably carried out, and resulted in a most enjoyable evening. The singers were Mrs. Dow and Messrs. Yates, Stoner, and Wear.

Wear. At 73' Newman Street, London, W., on January 21, a good attendance of members of the Chemists' Assistants' Association, including Messrs. R. H. Brittain (President), Loxley, Crossley-Holland, Wilkinson, and J. H. Northey, forgathered to form a whist-party. However, owing to there being one player short, one set played "dummy" throughout the evening, and this hand became in great repute, as it was followed by exceptionally good luck.

As Messrs. Willoughby and Northey totalled the same number of points they decided to draw for the awards. Mr. Willoughby secured the first prize (a set of razors), and the second (a shaving-brush) fell to Mr. Northey, while the consolation prize went to Mr. Crossley-Holland.

The fourth annual whist-drive of the Bath Pharmaceutical Association was held on January 21 at Messrs. Fisher's Restaurant, when a record gathering, numbering sixty-four, spent a most enjoyable evening. The President (Mr. E. W. Loveless) acted as M.C., and with Mrs. Loveless received the guests. The prizes were keenly contested for, ties resulting in two cases and necessitating a replay. After much excitement the following results were announced: Ladies—(1) Miss Cooper, (2) Mrs. Tugnett. Gentlemen—(1) Mr. Lloyd, (2) Mr. George; consolation prizes, Mrs. Pryke and Mr. L. Wilson. An interesting presentation was then made, the President handing Mr. W. Cooper a prize of books for the best herbarium in the competition instituted by the Association. A hearty vote of thanks to the President and committee, proposed by Dr. Monro, terminated the evening's enjoyment.

The Midland Pharmaceutical Association had an enjoyable whist-drive at the Grand Hotel, Birmingham, on January 20. Among those present were Messrs. A. W. Southall (President), A. W. Gerrard, T. Hill, C. Thompson, E. Smith, A. Jensen, T. Barker, H. Buckingham, J. Poole, H. M. Tranmer, W. C. Scott, and T. Owles. Mr. J. Wakefield undortook very successfully the duties of M.C., owing to the absence through illness of Mr. E. Corfield. The prizes were gained as follows: Ladies: 1st, Mrs. T. Hill; 2nd, Mrs. Wellack; consolation, Mrs. Jensen. Gentlemen: 1st, Mr. H. Buckingham; 2nd, Mr. W. C. Scott; consolation, Mr. T. Hill. At the conclusion of the drive a hearty vote of thanks was given to Mr. Wakefield for his services as M.C. A vote of sympathy with Mr. Corfield, expressing a hope for his speedy recovery to health, was also passed.



BRIT, SH
BRUSH MANUFACTURERS'
ASSOCIATION.

The first annual dinner of the British Brush Manufacturers' Association was held at the Imperial Restaurant, Regent Street, London, W., on January 21. The company, which numbered about sixty, was presided over by Mr. Ernest N. Kent (President), and he was supported by other officers and members of the Council of the Association. The menu-card was embellished with a spirited sketch by Mr. Rackham, who managed to give spice to what many may regard as the prosaic business in bristles and brushes. The menu was made to fit the occasion, one of the items being a wild boar's head, which had been specially obtained for the occasion from the Continent. After dinner the President proposed the toast of "The King," and then Mr. R. W. Chase proposed that of The British Brush Manufacturers' Association." He referred to the success that has so far attended the work of the Association, and proceeded to refer to the necessity and utility of organisation to the brush-trade. The business being comparatively small and not of sufficient importance to be mentioned in the Board of Trade returns, it is necessary that all manufacturers of brushes and dealers in the raw material should have a strong association to represent them when occasion required it. An organised trade is able to make itself heard much more

effectually than through individual members. An association is better able to act in the case of trade disputes, which otherwise might lead to disastrous consequences. The utility of an association in raising the status of a trade is considerable. The Association had before them the fixing of a definition of "all bristle," which term it has been decided by the Council of the Association shall be applied to nothing but what has been produced from a pig's back. The term "hair" is used when the material has been obtained from the back of other animals. It is intended to put in force the provisions of the Merchandise Marks Act in cases of mis-description. Mr. Chase concluded by referring to tariff reform, and stated that brushmakers would benefit considerably by an alteration in the fiscal policy of Great Britain. The President, in reply, expressed the opinion that the Association can do nothing but good to the brush-trade. He hoped that those firms which are still outside would see the wisdom of united action and join the Association. He referred to an earlier organisation which was brought into being during the great strike of 1872, and although that society was only in existence for a short time, much benefit resulted to the trade. Mr. Kent then spoke of the excellent services which Mr. Marson Till has already rendered as Hon. Secretary, and he laid stress on the fact that the Association has not been founded for the sole benefit of the London brushmakers; on that account he specially welcomed the country members who had come up for that function. The other toasts were "The President" and "The Visitors." During the evening an interesting exhibition of sleight-of-hand was given by Dr. Byrd-Page, and songs were contributed by Mr. J. W. Dear and Mr. F. Rome.

The annual meeting of the Association had taken place the same afternoon at the Great Eastern Hotel, Liverpool Street, E.C. Mr. E. N. Kent was in the chair. The report of the Council dealt with the work accomplished during the year. The sub-committee of the Association had been able to get a War Office committee to agree to proposals for modernising some of the contract patterns of brushes, and to arrange for the issue of tenders for larger quantities at less frequent intervals. The report of the Fair Wages Commission, before which the Association gave evidence, has also been considered. The question of adopting trade-descriptions for "bristle" and "all hair" had also been under consideration, and the definitions referred to above were settled by the meeting. The Treasurer submitted the audited accounts. Both the report and the balance-sheet were approved by the meeting. No change was made in the officers of the Association.

Information Wanted.

Inquiries for the names and addresses of manufacturers, or other trade information, not traceable by reference to the advertise-ment-pages of "The Chemist and Druggist" and the "C. & D. Diary," or not filed in our private register, are inserted here free of charge. Postcard or other replies to any of the subjoined inquiries (addressed to the Editor "The Chemist and Druggist," 42 Cannon Street, London, E.C.) will be esteemed.

190/6. Who buys old I.R. water-beds?

190/3. Where can La Pymatine for the hair be obtained? 190/13. "Lavis" body-belt, who makes or where obtainable?

185/50. Address of manufacturers of, or agents for, Chinese soap.

193/30. Where are the following preparations obtainable: Zonar Elixir, Rainon Juice, and Wren Nut Fluid.

Mr. G. F. Pierce, a professional window-dresser, makes a suggestion for the "P.A.T.A. window" system. This means the letting of windows by chemists from time to time, in sections, to different makers who may avail themselves of this valuable space for the display of their proprietary goods. Mr. Pierce undertakes the dressing of the P.A.T.A. windows (in London), and will make it his particular study to prove to those whose goods are exhibited in this way that the chemist's window can be made, by proper handling, the best medium for advertising to the public and a source of considerable profit to the retailer.

Chemical Society.

A MEETING was held at Burlington House on Thursday, January 21, Sir William Ramsay, F.R.S. (President), in the chair. After the dispatch of the usual business of reading the minutes and admission of new Fellows, Dr. E. Divers rose and begged leave to submit a series of questions to the President on the recent resolution of the Council relating to

THE ADMISSION OF WOMEN

to the Society as "subscribers." The principal points on which Dr. Divers sought information were: (1) the power of the Council to enforce such a resolution, which really had the force of a by-law; and (2) whether men were to be admitted as "subscribers" on the same terms as women. Most of the other questions were criticisms of the phraseology of the resolution. The President stated that he could not undertake to answer Dr. Divers' questions officially offhand, but speaking for himself only he thought the Council's resolution was a satisfactory way out of the difficulty, and mentioned that in his view the case was similar to that of certain of the great libraries, the privilege of the use of which is confined to certain people only. In such a matter the general public suffer a disability, but as a general rule the governing bodies of such libraries almost invariably extend the use of the library to any person properly introduced and vouched for. In adopting the resolution, the Council of the Chemical Society was only following this precedent. At the suggestion of the Senior Hon. Secretary, Dr. Divers agreed that his questions should be dealt with by the Council.

THE PAPERS

down for reading were very numerous, and as Dr. Divers' interpellations had taken up a good deal of time, the President asked authors to be as brief as possible. The resolution of dibenzylethylpropylisobutylsilicane sulphonic acid was the subject of the first paper, by Dr. Kipping and Mr. Davies, and dealt with the attempt to obtain an optically active silicon compound containing only one atom of silicon. The acid is apparently resolved by crystallising its salts of optically active bases such as brucine, cinchonine, etc., but in most cases the two forms of each salt isolated show scarcely any difference in optical activity, and the resolution is only made evident by slight differences in meltingpoint.

The Spontaneous Resolution of Sodium Ammonium Racemate was the subject of the next paper, by Professors Kipping and Pope. It recorded the curious fact that in the majority of cases when this salt is crystallised from water it undergoes partial deracemisation, the sodium ammonium dextro tartrate separating out first. This tendency to deracemisation is reduced if the crystallisation be effected in dust-free air, and consequently the authors think the phenomenon may be due to atmospheric "seeding" of the solutions.

ERIODICTYON and its allies was the subject of the next paper, contributed by Messrs. Tutin and Clewer, of the Wellcome Research Laboratories, which we reserve.

The Hydration of Precipitates was then dealt with by Mr. S. U. Pickering, who has devised a physical indirect method for determining the amount of water combined with the complex precipitates formed in making the usual paraffin-soap-lime-copper-sulphate emulsion used in spraying fruit trees. The chief point of interest is that the water in such precipitates must, according to these results, be present in the solid form and this cannot be *ice* in the ordinary sense, as the precipitates are amorphous. Hence the author is forced to the conclusion that the water in such precipitates is in a hitherto unrecognised form.

Dr. Ruhemann followed with a paper on "The Formation of Cyclohexanone Derivatives." Dr. Chattaway then

Dr. Ruhemann followed with a paper on "The Formation of Cyclohexanone Derivatives." Dr. Chattaway then described, and illustrated by experiments, a new method of making hydrazone sulphate by heating dicarbamide with strong sulphuric acid. Finally Dr. Lowry gave very briefly a résumé of some experiments made with camphor derivatives, which can occur in two dynamic isomeric forms, with a view to ascertaining whether such dynamic isomerism is made evident by the substances showing a characteristic absorption band. The results were negative. Before closing

the meeting the President announced that the Fellows would line together at the Hôtel Métropole on March 25 next, which is the date of the anniversary meeting.

Society of Chemical Industry. NOTTINGHAM SECTION.

THE third lecture on the bleaching-industry was given by Professor F. S. Kipping, D.Sc., F.R.S., on January 20, at University College, Nottingham. Mr. Oliver Guibell was in the chair. Professor Kipping, who illustrated his lecture by numerous experiments, took for his subject

THE CHEMISTRY OF BLEACHING.

He said that it had been shown in earlier lectures how the soda-boil affected the impurities in the cotton-fibre, the object of the process being to remove these and leave the cellulose unimpaired but still containing small quantities of certain gums, which a solution of bleaching-powder makes colourless. The removal of the impurities from the fibre in bleaching depends upon their oxidation. To effect this an oxidising-agent has to be employed, and although there is plenty of oxygen in the atmosphere it is not in any sense a bleaching-agent. This may seem contradictory in view of grass bleaching, but this action seems to depend on compounds in the air due to vegetable growth.

The most important agent in bleaching is hypochlorous acid and its salts. This acid, which is made up of three atoms—viz., hydrogen, chlorine, and oxygen—very easily gives up oxygen. The chlorine it contains is not a

bleaching-agent at all.

The manufacture of bleaching-powder having been explained, the lecturer went on to say that this powder has for a long time afforded many intricate problems to the chemist, and its true composition is not yet thoroughly understood. It is known to be an extremely complex substance and to be a mixture. There are at least seven lime salts in it. Free lime is also said to be present, as the solution colours litmus blue. Calcium hypochlorite is the constituent that contains the oxygen producing the bleaching effect. This effect is in no way due to chlorine, although we speak of bleaching-powder in terms of available chlorine. The value of a sample of bleaching-powder depends entirely on its oxidising power, and this depends on the amount of calcium hypochlorite it contains. Some bleachers think they determine the strength of a solution of bleaching-powder by the Tw. There is absolutely no relation between the sp. gr. and the bleaching-yalue of the solution.

sp. gr. and the bleaching-value of the solution.

The bleaching-power may very accurately be found out in the laboratory by means of a standard solution of potassium iodide, using starch solution as an indicator. Bleaching-powder solution added to this mixture turns it blue, owing to the oxidation of the potassium iodide and liberation of iodine. By means of a solution of white arsenic the exact proportion of calcium hypochlorite present can be ascertained if a measured quantity of the bleaching-solution is used. This gives an exact value.

The making of the solution for bleaching is an important operation. Carey and Muspratt ("Jl. Soc. Chem. Ind.," 1903) say that to get the best results the water

should be at a temperature of 75° to 80° F.

Bleaching-powder is not only very complex in its composition, but it is very changeable or unstable. Even the shaking of a railway journey will affect it. It undergoes rapid changes when stored under ordinary conditions, and rapidly decomposes in sunlight, oxygen being given off and the value of the powder impaired. A solution of bleaching-powder was shown which had filled an inverted tube closed at the top, and which had been exposed in the open air for a few hours. Gas was seen to have collected at the top, lowering the level of the solution by several inches. This the lecturer said was oxygen, the giving off of which had deteriorated the value of the solution.

The question of penetration is also of importance. The bleaching-powder solution has to get inside the tissues,

and if the fibre contains any fatty or waxy matter the solution cannot penetrate. An experiment illustrating this was made, when two similar red flowers, one of which had had the wax extracted with a solvent (equivalent to the soda-boil) and the other left in its natural state. On the two being steeped into a bleaching-solution the flower in the natural state was not visibly affected, while the other rapidly turned white, proving the importance of the removal of fatty and greasy substances from the fibre to effect proper bleaching.

The Chairman having invited remarks, Mr. J. H. Ashwell spoke on the action of certain dyes on oxycellulose. Mr. F. J. R. Carulla referred to the value of these lectures to others than bleachers. In the very first lecture he had found the solution to a problem that had puzzled him since last May-namely, how steam could corrode iron pipes. The dissociation of magnesium chloride in the boiler, with the formation of hydrochloric acid, clearly solved the problem, for a small quantity of this acid going over with the steam would not take long to cause havoc in the pipes. Again, in the second lecture the action of acids and bases on cellulose was an instructive lesson to all who used filter-cloths.

A vote of thanks to Dr. Kipping was carried by acclamation.

Royal Institution.

THE somewhat unusual circumstance of a lecturer eightyat the Royal Institution on January 22. This was the distinguished scientist Dr. Alfred Russel Wallace, cosix years of age delivering a discourse was witnessed lecturer, with his silvery-white hair, showed some evidence of his age in his somewhat feeble voice, but the clear logic of his discourse was ample evidence that the mind is as clear and alert as ever. The title of the lecture was "The World of Life as Visualised and Interpreted by Darwin," and it was an attempt to clear up some misunderstandings that have arisen in regard to the Darwinian theory. theory, he said, is based on those external facts the close observation and description of which constituted the old-fashioned naturalist. Modern specialists in one or two groups, such as anatomy or embryology, were disposed to think that a theory that can dispense with all their work could not be so far-reaching and important as it was found to be. Dr. Wallace then referred to some of the groups of facts on which Darwinism rests. These were, first, the distribution of the species of flowering-plants, the enormous powers of increase of plants and animals, the facts of inheritance with variation, the nature and mode of action of natural selection, and the adaptation of species to environment. Discussing the complex nature of adaptations, the lecturer directed attention to the relations between the superabundance of vegetation in spring and summer, the enormous, but to us mostly invisible, hosts of the insect-tribes that devoured that vegetation, and the great multitudes of the smaller birds whose young are fed almost exclusively on those insects. Without those insects the birds would soon become extinct, while without the birds the insects would increase so enormously as to destroy a considerable amount of vegetable life, which would in turn lead to the destruction of much of the insect life, and even of the highest animal-groups. The wonderful adaptation which enables each kind of parent bird to discover and capture immediately around its nest a sufficient quantity of insects for its brood, in competition with many others engaged in the same task, was pointed out, and the facts were shown to involve specialities of structure, agility of motions, and acuteness of the senses which could only have been attained by the preservation of each successive slight variation of a beneficial character through geological time. Every abundant species consists of tens or hundreds of millions of individuals, which as regards any faculty or quality whatever may be divided into two portions—the less and the more adapted—not very unequal in amount. Hence at any given time in any given country the advantageous variations always present are to be counted, not by ones or twos, but by scores of millions. The facts of nature being what they are, it is impossible to imagine

any slow change of environment to which the more populous species would not become automatically adjusted under the laws of multiplication, variation, and survival of the fittest. The lecture concluded with a few words on protective colour and mimicry.

Among the exhibits in the library was a fine show of Crouch's microscopes made by Messrs. S. Maw, Son & Sons,

Aldersgate Street, London, E.C.

Personalities.

Mr. J. Fillingham, pharmaceutical chemist, Westgate, Grantham, has been elected Vice-President of the local Traders' Association.

MR. VICTOR J. WOOLLS, chemist and druggist, Cecil Square, Margate, has been appointed organist of the Union Lodge of Freemasons.

MR. H. W. BYGOTT, formerly of the Government Dispensary, Uganda, has now gone to the United States and is at present settled in Topeka, Kansas.

MR. T. A. Cook (E. Cook & Son, Ltd.) has received a unanimous vote of thanks from the West Ham Hospital Committee for his services as Chairman at the recent dinner.

Among the graduates at the Royal Military College, Kingston, Ont., was Cadet T. E. Morrison, son of Professor J. E. Morrison, Montreal. Lieut. Morrison is now attached to his regiment at Halifax, N.S.

Mr. George Mercer, chemist and druggist, Queen Street, was elected on the Committee of the Great Harwood Tradesmen's Association at the annual meeting held on January 21, to represent the chemists' interests.

MR. J. J. HANSON, the London and South Coast representative of Jas. F. Wilkinson. label-printer, Manchester, was on January 16, at the Hotel Cecil, Strand, W.C., installed W.M. of the Commercial Travellers' Lodge,

THE relatives of a Mr. Moritz von Soden, of Reggio, an exporter of essential oils, who unfortunately perished in the recent disaster, are desirous of communicating with his London agent, but know neither name nor address. Can any reader oblige?

Mr. W. Maskew, pharmaceutical chemist, Clacton-on-Sea, whose article on "Old Books Worth Knowing" is given in this issue, lectured last week before the Clacton Industrial Arts Society on "Paris Then and Now." A feature of the lecture was the exhibition of a beautiful set of hand-painted lantern-slides made thirty-six years ago.

New Books.

These notes do not necessarily exclude subsequent reviews of the works. Any of these books printed in Great Britain can be supplied, at the published price, to readers of this journal on application (with remittance) to the Publisher of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Anderson, Fred. A. Boiler-feed Water: a Practical Treatise on its Quality, Effects, and Purification. $8\frac{3}{4} \times 5\frac{1}{4}$. Pp. 166. 6s. net. ("Electrician.")

Charteris, M. The Practice of Medicine. Ninth edit. $8\frac{1}{4} \times 5\frac{1}{4}$. Pp. 704. 9s. 6d. net. (Churchill.)

Newlands, J. A. R. and B. E. R. Sugar: a Handbook for Planters and Refiners. Illustrated. $9 \times 5\frac{1}{2}$. Pp. 912. 25s.

net. (Spon.)

Snyder, Harry. Human Foods and their Nutritive Value. $7\frac{1}{2} \times 4\frac{3}{4}$. Pp. 380. 5s. net. (Maemillan.)

7½×4¾. Pp. 380. 5s. net. (Maemillan.)
The Aërator's and Bottler's Cyclopadia. Edited by J. Gilbert Smith. 10×7½. Pp. 104. ("Mineral-water Trade Review." 165 Queen Victoria Street, London, E.C.) [This book contains in alphabetical order information of use to aërated-water makers. It includes monographs on many subjects with references to articles which have appeared in the "Mineral-water Trade Review." The chemical and hygienie notes are by Mr. J. T. Norman, while the legal references are from the pen of Mr. John Duncan, barrister-at-law. A complete list is given of trade-marks in Class 44.]
Workshop Receipts. For Manufacturers and Scientific Amateurs. New edit. Vol. 1. Acetylene Lightning—Drying. 7½×4¾. Pp. 540. 3s. net. (Spon.)

 $7\frac{1}{2} \times 4\frac{3}{4}$. Pp. 540. 3s. net. (Spon.)

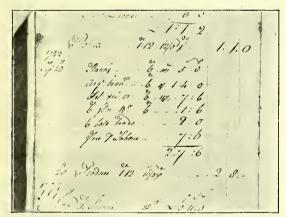
Linking Three Centuries.

Notes on a Visit to Messrs. Burgoyne, Burbidges & Co.'s new Chemical and Pharmaceutical Factories at East Ham.

IN medias res is the safe plan when one is faced with so alturing a subject as the events in a business which was founded in the first half of the eighteenth century, was a neighbour of the Bank of England when the nineteenth century began, and in the first decade of the twentieth has laid the foundation for another century by transferring the manufacturing portion of its business to an

east suburban part of London.

It would not be a hard thing, but a delightful experience, for someone with leisure to link up into an historical monograph the men and methods involved in the business of Messrs. Burgoyne, Burbidges & Co., of Coleman Street, London, E.C., and East Ham. The history begins in 1741, and the connecting-link between that past and this present is furnished by Fynmore & Palmer, of Throgmorton Street, to whom Richard Hotham Pigeon (first Treasurer of the Pharmaceutical Society) was apprenticed in 1805, being admitted a partner in 1812. Near our own day there are admitted a partner in 1612. Near our own day there are the coming and going of Burgoyne and the brothers Burbidge to trace, besides other partners of eminence in the drug-world. These latter-day changes introduced a new generation, led by the late Mr. Julius Cyriax, who with his young partner, Mr. Thomas Farries, took the places of the brothers Burbidge at Coleman Street in 1876. The subbrothers Burbidge at Coleman Street in 1876. The subject, we repeat, is alluring, but the object of these notes is to deal with Messrs. Burgoyne, Burbidges & Co.'s magnificent new works at East Ham. It has always been a manufacturing house. Here, for example is a reproduction of part of a page of an early laboratory book:



ORIGINAL LABORATORY BOOK. Part of a page from the book commenced in 1741.

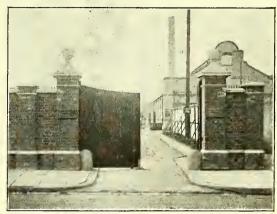
This speaks for itself. The manufacture of galenicals has been going on continuously since, and when the late Dr. W. S. Squire, son of Mr. Peter Squire, became a partner of the firm, about fifty years ago, he developed the chemical-manufacturing part of the business. Since his day the firm has comprised among its members and on its staff men who have been trained as analytical and technical chemists, so that to this day the production of chemicals and pharmaceuticals has been an essential part of the business. If any proof were needed of the fact, it is given in the splendidly illustrated account of the East Ham works which the firm insert in the advertisement section of this Winter Issue, and which, by the way, as a piece of business enterprise Messrs. Burgoyne, Burbidges & Co. have the distinction of doing first.

East Ham is a town within itself which is becoming an important extra-metropolitan manufacturing centre. has facilities for inward and outward carriage that suit metropolitan houses and a resident population which provides the requisite labour, while housing accommodation is ample. Here Messrs. Burgoyne, Burbidges & Co. have

purchased four acres of open ground, and have planned it out in a way which indicates future developments. Right in the centre of the field they have placed the boiler- and engine-houses to furnish the present and future factories with steam, electric light and power, gas, and abundance of air-pressure. A well, 500 ft. deep, gives a constant supply of pure water, and there are other things in this centre common to the whole organisation.

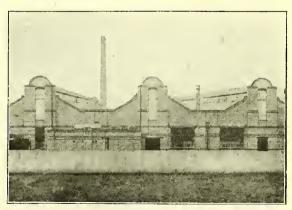
The first thought of the pharmacist who visits the works

and observes the plan of the whole is that the firm have "builded wisely and well." The design is admirable. On



ENTRANCE TO THE WORKS IN EAST HAM.

entering the grounds through an attractive gateway, we get a glimpse of the factory just as the camera has caught it. This is of one storey; purposely so, for the abundant light from the roof and ventilation through it are economical and healthful. The building is longitudinally divided into three immense halls, 250 ft. long by 40 ft. wide, each selfcontained and fireproof, but divided across by walls into



FRONT ASPECT OF THE WORKS.

smaller compartments, the longest of which is 120 ft. They intercommunicate by fireproof and teak doors.

The central portion of the building contains the laboratories for galenical products; the portion to the left of it is a storehouse, and that to the right the chemical and steam laboratories. Supplementary houses of a temporary character at each side of the building are used for stores of cod-liver oil and other oils, and "heavies" generally on one side, and bottles, jars, empties, etc., on the other. The usual arrangement is on a thought-out plan—e.g., the temporary houses (made of galvanised iron) have concrete floors on a

level with the factory-floor; the beginning, in fact, for future extension of the factory.

This is the first view one gets of the storehouse in the main building. It is one of the three parts into which the section is divided. The picture shows admirably what we may call the elasticity of the place. It looks full enough as it stands, but our guide indicated spots and places which have been fuller. "Keep moving on" is the maxim here, however, both in incomings and outgoings. The part behind this is nearly twice as long, and contains, besides



ORIGINAL PACKAGES IN THE STOREHOUSE.

cases, bales, and other original packages, bins and barrels for loose-bulk drugs. In the third part drugs are crushed and sifted for the laboratories and powdered for the market, and such operations as tablet- and pill-making are performed in separate compartments. It is all on a large scale, all cleanly and orderly, and all of a kind—dry.

Passing next to the central section of the building, we enter a series of apartments which illustrate the modern method of crude materials coming in at one end and the finished articles passing out at the other; that is, the preparation of essences, tinctures, and other galenicals, and their exit, under the eye of an officer of his Majesty's Excise, to Brazil, China, and India—which happened to be a few of the destinations that the eye caught on this occasion. Tincture-manufacturing is a big thing with Messrs. Burgoyne, Burbidges & Co. They were in the export business



A GLANCE AT THE TINCTURE-ROOM.

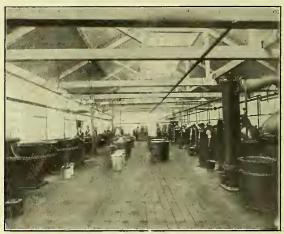
many years before tineture-drawback was heard of, and have kept at it since—expanding, improving, and without tuss. The picture shown above is one of several views of their tineture-room (60 ft. by 40 ft.)

Heir tincture-room (60 ft. by 40 ft.)

Besides these we counted four rows of 30-gal. barrels, each of three tiers, and the mental effort was switched to a calculation of the spirit-duty represented in all these tincture-containers, and the storcs of rectined spirits in the

cylinders at the sides; then when we stepped into the next part of the section there was a decline in the national exchequer: this was the export-tincture department, and there to the right was the Revenue officer checking off (as he does day in and day out) the amount of duty which the Exchequer will return to Coleman Street.

How wasteful are our fiscal methods! Here before our eyes are men working with thousands of gallons of stuff, the initial cost of which is something under 2s. a gallon; the Government increases its value tenfold while it is going



STEAM LABORATORY FOR GALENICALS.

through this building, and every drop that evaporates, spills, or is otherwise lost, is a tenfold loss. Then we come to this export department and see the Government's agent knocking off nine-tenths of the value of what remains. When shall we learn reason, knock off the nine-tenths before the spirit is used, and set the Government officer to watch it all the way down the building? It could just as easily be done, and as this is the finest example that could be put before the Chancellor of the Exchequer—involving, as it does, thousands of pounds annually and all in one building—we suggest that Mr. Lloyd-George should be asked to visit East Ham before the next Budget.

This bit of moralising has displaced a pretty picture of the speciality-packing department, where we saw dozens of girls busy on cream emulsion of cod-liver oil and a host of other



VACUUM PANS AND HYDRAULIC PRESS.

counter-specialities. These young persons are well cared for, a fine suite of lavatories and dressing-rooms being arranged for them in an annexe.

The chemical and steam laboratories were next attacked. These are fine. First the analytical department was visited. There are records there of tincture-work, chemical-testing, drug-assaying, and research induced by commercial and technical difficulties, which would furnish papers for several

sessions of the British Pharmaceutical Conference. It looks upon the large chemical-manufacturing laboratory, which has in one corner a fume-chamber resembling a modest Reginald G. Halstead (nephew of Mr. Farries), who went

cottage. Had we had any notion that B., B. & Co. chemicals are "made in Germany" and labelled in Coleman Street, this scene was enough to dispel it; for all around were chemicals from the initial stage to the final processes purification drying; some common, others rare, but all representing articles which this country is recovering or making reputation for.
The appliances are modern and the methods sound.

Next to this laboratory is a granulating-room, and communicating with it a fluid-extract laboratory, behind all being a magnifi-cent still and steam-pan room, depicted on p. 166.

This is 120 feet long. It would need several views to do it justice and to show all the apparatus employed in making extracts, liquors, and syrups; in distilling waters, essential oils, and spirits; in compounding soluble and fruit essences; and, above all, the clever machines, each worth 250l., which super-emulsify emulsion of cod-liver oil into the firm's "Cream" product. Ingenuity in technique is everywhere evident, the skilled chemical engineer

who superintends the factory having the willing support of principals who are alive to the value of the best in apparatus and material for ensuring economy and progress. The all-prevailing spiritensuring economy and progress. The all-prevailing spirit-duty (10s. 6d. per proof gal.) has brought in several unusual saving and recovering devices, three hydraulic presses, the biggest giving a pressure of 100 tons, among them. It is seen in the last picture of the interior that we show. Beside it are an ointment-mill and two of the vacuum-stills.

After inspecting the works and walking through the firm's warehouses in the City, the wonder is how manufacturing was done there. Now the conditions for produc-tion are the best and the capacity of the factory such that exceptional demand can be met. The firm's export business is known to be among the best overseas connections in the drug-world, and it calls for close attention and a progressive policy. So in regard to the home trade, and these pictures and paragraphs show our readers how the members of the firm are meeting the situation. Of them we add portraits. Mr. Farries is the senior partner. He went straight from "the Square" (where he negotiated the "Major" in 1866) to help Dr. Squire in the firm's laboratories; then from 1874 to 1876 was partner with Mr. Cyriax in his Basinghall Street business, when they both went round to Coleman Street. He has been senior since Mr. Cyriax died in 1892. Mr. H. R. Arnold was also educated at the Square, as an analytical pupil of Dr. John Attfield, and before going to Burgoyne's chemical laboratory had experience in the manufacturing laboratories of Messrs. Gale & Co., and was afterwards chemist with the late Mr. John Moss at the Zoedone Works in Wales, ultimately supervising the Paris branch. Commerce now holds his attention. He has been a partner since 1897. Mr. Gerald R. Moxon (a relative of

The Partners.





MR. H. R. ARNOLD







MR. G. R. MOXON.

through all departments of the house and attended the "Square" school before he joined the firm as a partner in 1902. As each junior comes into the firm he realises that he has his part to play in a large organisation, whose place in the front is chiefly due to the vigilance of the men at the top, and whose staff numbers hundredsand loyal workers they are.

In the "Record of Progress during 167 Years," which the firm print in this issue, they begin with a statement which deserves repetition here. It is:

The keynote of progress in any business undertaking is foresight. The faculty of gauging accurately the lines on which development is likely to proceed, and a readiness to prepare for, and to take advantage of, every opportunity as it occurs are the attri-butes of success. Thus butes of success, the far-seeing wholesale druggist is not content to remain a vendor of crude drugs, but becomes as well a manufacturer of the galeni-cals, of the pharmaceu-tical specialities, and of the chemicals which he sells to the retailer.

The keynote so struck has been well kept by

Messrs. Burgoyne, Burbidges & Co., and the respect in which they and their products are held in all parts of the world, combined with the progressive spirit of the present partners, makes it far from risky to prophesy that a fourth century will in time be linked to the history of the house.

Trade with Turkey.

ALUM, which is chiefly used at Adrianople by the local dyeworks, was imported exclusively from England last year. Of quinine, about 2,000 kilos. was obtained from France and İtaly, at 32f. per kilo. c.i.f. Dedeagatsch. Germany and England supplied castor oil, glycerin, iodine, vaseline, and ammonia salts. Soda was also obtained from France and Italy. Naphthalin and ceresin wax came from Austria, and paraffin wax from Hungary. Essential oils and surgical appliances were obtained from Constantinople and were of German origin. Medicinal specialities, perfumes, toiletsoaps, and toilet-articles came from France. Drugs were mostly imported direct from Trieste. The greatest demand for chemical products in Uskub comes from Salonica, au that it is somewhat difficult to determine the source from which they are obtained. Austria-Hungary still hold their own, although Germany and Italy are much interested in trade in chemical products. Green copperas, ceresin and paraffin wax were obtained from Austria-Hungary, also small quantities of salmiac and starch. Other chemical products were imported from Germany (soda. sulphuric acid), England (salmiac, alum), and Italy (sulphur). The demand for colours is steadily increasing, and Germany does considerable trade in aniline dyes. Austria-Hungary also supplied aniline dyes as well as zinc white and indigo.

Lime and Water.

DR. G. T. MOODY and L. T. Leyson gave ("Journ. Chem. Soc.," 1908, November, p. 1767) the results of an investigation on the solubility of lime in water. Maben's results ("P.J.," 1883, 14, 505) are stated to be vitiated by errors due mainly to defective methods of saturation, of heating, and of filtration. Lamy's statement that the solubility of lime varies according to mode of preparation was checked. It was found that 100 c.c. of lime-water prepared from ignited calcite was equivalent, on acidimetric titration, to 92.2 c.c. of lime-water from heated white chalk (unpurified), 99.03 c.c. of lime-water made from ignited marble, and 100.9 c.c. of lime-water prepared from precipitated lime (made by interaction between solutions of calcium chloride and sodium hydroxide). The precipitated calcium hydroxide was found to contain basic chloride, and even after continued washing it was impossible to remove all the chlorine. The presence of this impurity is probably responsible for a reduction in the solubility of the lime prepared by precipitation. The greater strength of the lime-water from white chalk might be due to formation of solnble silicates formed on the ignition of such chalk. In two experiments lime-water prepared from calcite ignited with small amounts of added silica was appreciably stronger than that from pure calcite. It appears, therefore, that the observed difference in solubility is due to the presence of impurities, and not to any peculiarity of the lime itself. Other factors that affect the strength of the lime-water are: (1) The slowness with which water is saturated with lime, even in large excess; (2) the supersaturated lime-water formed on raising temperature gives np excess of lime with extreme slowness; (3) the weakening of lime solutions in filtration through paper; (4) precipitated lime after strong ignition gives a lime-water practically identical in strength with that prepared from calcite, owing to volatilisation of chlorine; (5) calcium carbonate precipitated with sodium carbonate carries down a minute quantity of sodium carbonate, and the lime prepared from it gives a very slightly stronger solntion.

The lime used in the exact determinations, done in dnplicate, was made from the purest calcite obtainable, which was ignited in a platinum dish placed in a muffle. The solution-bottles were fitted with revolving stirrers, with mercury traps to exclude air, and heated in a water-bath controlled by a thermostat. Recently boiled distilled water was used for making the solution. The filtering-material, of cotton-wool placed between filter-papers and strengthened with layers of fine calico, was fastened to a thistle-headed the immersed in solution. The solution was forced out through the filter by air-pressure, the air being previously passed through a potash tower. A condenser was attached in working above 30° C. The solubilities, as directly deter-

mined by titration, are as follows:

| | Grams of | | Grams of |
|------------|------------|----------|------------|
| Tempera- | Water con- | Tempera- | Water con- |
| ture | taining | ture | taining |
| ture | 1 gram of | ture | 1 gram of |
| | CaO | | CaO |
| 2° | 768.5 | 40° | 988.1 |
| 10° | 786.8 | 50° | 1083.0 |
| 15° | 804.3 | 60° | 1179.0 |
| 20° | 826.4 | 70° | 1274.8 |
| 25° 30° | 868.7 | °03 | 1368.1 |
| 30° | 908.2 | | |

The solnbility-curve between 25° and 80° is practically a straight line. That plotted from Maben's figures between 25° and 75° is a remarkable periodic curve, the solubility in rising temperatures decreasing more rapidly through each alternate five degrees.

Banda Nutmegs.—Evil times have fallen upon the well-known nutmeg-plantations at Banda in the Moluccas. The "Java Bode" states that in consequence of a heavy fall in the price of that spice, the planters cannot meet the claims upon them, and the coolies on the estates can get neither wages nor rations. The rnined planters have not the means to send them back to their homes. Unless the Government affords relief the consequences will be disastrous.

Constituents of Kava-Kava.

DR. E. WINZHEIMER, of the research laboratories of Messrs. J. D. Riedel, Berlin, feels justified ("Archiv. der Pharm.," 246, 5, p. 338) in continuing the chemical investigations of kawa-root begun by Cuzent in 1860, and simultaneously by O'Rorke and Gobley, in view of the success of gonosantherapy, or the use of a solution of pure kawa resins from Piper methysticum in East Indian sandalwood oil, under the name of "gonosan," as an antigonorrheic. Gobley gave the percentage constituents of the root as follows: Resin, 2; methysticin, 1; ash, 4; watersoluble gummy matter, 5; starch, 49; cellulose, 26; water, 15. According to Cuzent, the root contains also a light-yellow essential oil and a small amount of tannic acid. Noelting and Kopp in 1874 found a second crystalline substance, which Lewin confirmed and named "yangonin" in 1886, while in 1889 Lavialle stated that he had isolated an alkaloid called "kawain"; but the first exhaustive examination of kawa-root and methysticin is due to Pomeranz in 1888-89.

The earlier investigators of the kawa-root exhausted the powder with 80-per-cent. alcohol, and, after removal of the alcohol from the filtered solution by distillation, separated the residual extract, by pressure on filter-paper, into resin and solid constituents, which they repeatedly re-crystallised from alcohol. Lewin endeavoured to separate the resins by exhausting the root with warm petroleum ether before extraction with alcohol, terming the resin mixture soluble in petroleum ether alpha resin, and the alcohol-soluble portion beta resin. The following treatment was used by the anthor:

(1) Petroleum Ether.—Five kilos. of the powdered root was extracted with three successive quantities of 5 kilos. each of boiling petroleum ether in a percolator. The extract from the united solutions was designated alpha resin.

(2) Alcohol (90-per-cent.).—The residual root from (1) was extracted with six successive quantities of 10 kilos. each of half-denatured spirit, each extraction extending over five hours. The extract gave beta resin and a crystalline mixture.

The root yielded alpha resin 0.91 per cent., beta resin 4.39 per cent., or total resin 5.3 per cent., and crystalline constituents 1.77 per cent. Extraction with alcohol alone from the outset is sufficient if no separation of the resins is desired. The author states that the resin mixture used in the manufacture of "gonosan" undergoes further treatment not described in the paper. Details are given of the separation processes, and the following is the summary of results: Kawa-root contains (in addition to water, inorganic salts, gum, starch, and cellulose) resins, 5.3 per cent.; methysticin, 0.50 per cent.; \(\psi\)-methysticin, 0.268 per cent.; yangonin, 0.184 per cent.; alkaloid, 0.022 per cent.; two glucosides, 0.69 per cent.; also some free sugar (0.7 to 0.8 per cent.) and a water-insoluble amorphous acid. The alpha and beta resin mixture contains about 23 per cent. of free resin acids and 77 per cent. of resin esters. The crystalline mixture from the alcoholic extract contains vangonin, methysticin, and ψ -methysticin, separated by fractional crystallisation from acetone. The simplest method of obtaining the yangonin is by removing the accompanying combinations by saponification with cold alcoholic potash. The methysticin of Pomeranz is a betaketonacidester containing a residue of piperin acid, as proved by the identity of the methystical obtained from it with the piperonylacetone synthetised by Scholt. The ψ -methysticin, like methysticin, is an ester of methysticin acid. Yangonin is a lactone, of the formula $C_{15}H_{14}\tilde{O}_4,$ which from the results now obtained may be expressed—

SEWING GOSSIP.—"You remember I used to be so troubled with chilblains," said she, yawning. "They don't have much chance now," her mother answered, breaking the thread with a jerk; "that young fellow sits holding your hands several nights a week."

The Dispensing of Ampoules.

By G. Pégurier, Ph.D., Nice.

OME references have been made in THE CHEMIST AND D DRUGGIST to the filling of ampoules, a method being described in the issue for June 1, 1907. As this convenient way of sending out sterile medicaments is becoming more and more part of the dispensing-work of the pharmacist, it will not be out of place to give fuller information based on

actual practice.

The first ampoules were Pasteur's pipette and sterile flask, which were suggested to that great worker in the course of his researches on bacteria by a desire to obtain pure cultures by using an absolutely sterile medium, and to preserve these cultures from accidental contamination by extraneous organisms. The flask, as is now well known, was closed by a plug of sterile cotton-wool, and the long neck could be easily sealed by a flame if it were desired to remove the flask to a distance from the place of preparation. A sealed Pasteur flask is really an ampoule, for although it is usual to think of a Pasteur flask as large and to associate smallness with an ampoule, neither has, in fact, such limitations. Thirty years ago M. Limousin, a Paris pharmacist, introduced the ampoule as a convenient method of preserving hypodermics, and a paper describing ampoules was read before the Société de Thérapeutique and is published in the "Bulletin générale" of the Société for April 1886. Both ampoule and its contents were sterilised separately, but since then a further advance has taken place in that the filled ampoule is sterilised in an autoclave, a method which has made the process easier and reduced the cost at which ampoules can be supplied. The use of ampoules is now general in France, Italy, and Spain, and they form part of the medical stores of the armies and navies of most nations. In England many of the leading pharmacies employ the process for hypodermic solutions, and when the ease with which the manipulations can be carried out at the dispensing-counter is better understood all classes of pharmacists will be ready to supply ampoules.

Advantages of Ampoules.

 The liquid is absolutely aseptic.
 It can be preserved indefinitely.
 Ampoules are convenient for the physician and save his time.

4. Liquids but seldom required can be kept ready for an emergency

5. Any drug can be put up in ampoule form.

It is curious to note that hypodermic tablets, which marked a step in advance in the preservation of sub-cutaneous medicaments and have found favour in Great Britain, are but little employed in France. The one advantage of the tablet is its small bulk, but against this have to be put the following

Disadvantages of Tablets.

1. The final product is not absolutely aseptic.

2. It is impossible to put up many drugs in tablet form— e.g., ether, camphorated oil, lecithin, guaiacol, and deliquescent substances. 3. The solutions made from tablets are often turbid-

4. The doses of a drug do not determine the size of the tablet, tablets being of a more or less uniform size notwithstanding the bulk or dose of the drug.

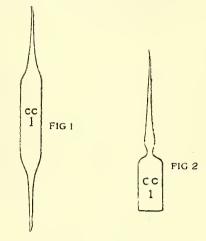
5. Tablets are not readily prepared at the dispensing-

Shapes and Sizes.

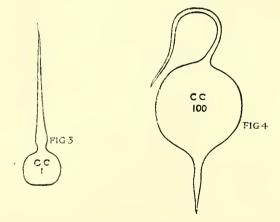
It is not difficult for those who have had some practice in glass-blowing to make their own ampoules, but most pharmacists will be content to purchase the empty bulbs. Either white or coloured glass may be employed, amber glass being very convenient for those substances affected by light. The empty ampoules are sold in France by the druggists' sundries houses and dealers in chemical glassware, the firms who make a speciality of these goods being Neveu, 35 rue de la Montagne-Sainte-Geneviève, Paris; Olive, 46 rue des Rigoles, Paris; and Fournier, Paris.

There are also many makers in Germany and Italy, and doubtless the demand can be readily met in England.

The shapes of ampoules vary greatly, some varieties being shown in the illustration. Fig. 1, which is simply



a tube drawn out with a point at both ends, is much used, but the phial-shapes (figs. 2 and 3) have much to recommend them. They can be stood upright and have not the tendency to roll which those of tube-shape have. In fig. 2 the constriction is found to facilitate the breaking-off of the tip, and on this account is sometimes preferred by physicians. There are, however, inconveniences with this shape. Ampoules are made of a capacity of 1 c.c. for hypodermic solutions; but larger sizes, such as 2 c.c., 3 c.c., 4 c.c., 5 c.c., and 10 c.c., will be required where much of a business is developed in this line. For liquids of greater bulk, such as saline solution, the shape exhibited in fig 4 is employed. The series in this shape comprises



tubes of a capacity of 20 c.c., 50 c.c., 100 c.c., 250 c.c., and 500 c.c.

Importance of Neutral Glass.

The first care of the pharmacist who obtains empty ampoules is to see that the glass is neutral—i.e., does not yield alkali or cause a turbidity in the solution stored in it. The following equations show the reaction that occurs when saline solution is boiled in lime or lead glass:

 $CaO.SiO_2$ + 2NaCl = CaCl₂ + Na₂OSiO₂ Sodium chloride Calcium chloride Sodium silicate 2NaCl $CaCl_2$ Lime silicate $+ \underbrace{ \text{2NaCl}}_{\text{Sodium chloride}} = \underbrace{ \text{PbCl}_2}_{\text{Lead chloride}} + \underbrace{ \text{Na}_2 \text{OSiO}_2}_{\text{Sodium silicate}}$ PbOSiO₂ Lea l silicate The test for alkali in glass is to fill a sample bulb with

phenolphthalein solution and boil for half an hour, when no rose tint should appear. A test which more nearly approaches the conditions that obtain in practice is to fill an ampoule with solution of morphine hydrochloride (1-100) and another with saline solution (7-1,000) and maintain at 100° C., by steam, for an hour, or 120° C. during half an hour. If neither turbidity nor small crystals are shown in this time the glass is of the proper quality. The importance of using neutral glass cannot well be exaggerated, as the stability of the solutions and success of the method depend entirely on this factor. It has been stated by some authorities that Jena glass of the quality known as "16 III." is the best to use for ampoules, but unfortunately glass is sometimes sold as Jena which has not the desired neutrality, hence it is always necessary to test a fresh batch.

Another important point is to verify the capacity of ampoules. It is best to use them of a size a fourth larger than would do for the purpose. It is then not needful to fill them quite full, and there is not so much risk of breakage during sterilisation. It is better to put in an excess of the solution rather than too little, as there is always a slight loss in using it—some being retained by the glass. It is, in fact, customary now to employ an excess of solution, of course keeping to the proper percentage medication. Ampoules are not regarded as exactly measured containers, but rather as means of preserving liquids. The physician always takes out the amount with a graduated hypodermic syringe, and if there is a slight excess it gives him the opportunity of increasing the dose by one or two minims if the circumstances should appear to require it.

Preparing the Solution.

The dispensing of ampoules may be conveniently divided into four operations: (1) Preparing the solution, (2) filling the ampoules, (3) sterilising the filled ampoules, (4) labelling and packing. In regard to the first-named, the prescription of the doctor will be faithfully followed. The dispenser must only employ sterile menstrua. The distilled water used should have been sterilised by steam at 120° C.; olive oil or a pure vegetable oil must be washed by shaking with 90-per-cent. alcohol for four or five days, decanting, and sterilising at 125° C.; liquid petroleum, soft paraffin, or lanolin should be sterilised at 125° C. Chemicals are generally aseptic, and do not need to be sterilised before use. In making a solution it is necessary to prepare one-quarter or three-tenths more than the total quantity required. If, for example, the doctor prescribes six 1-c.c. ampoules of strychnine hydrochloride (1-1,000) or morphine hydrochloride (1-100), the dispenser must prepare 10 c.c. or 12 c.c. extra, in order to balance the loss which occurs in filtering and transferring to the containers. With larger ampoules the loss is less. It will be found necessary to make 200 c.c. of solution to fill 150 to 160 ampoules (1 c.c.), and 1 litre for 750 ampoules. The solution is made up according to the rules of dispensing, but especial care must be taken to see that it is rendered brilliantly clear by filtration.

Filling the Ampoules.

The methods which will be dealt with here are only those

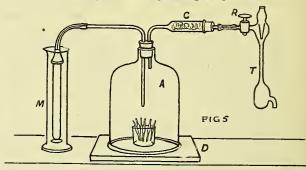
which can be used at the dispensing-counter.

Filling Ampoules open at Both Ends (e.g., fig. 1).—The two points being clear, one is dipped into the solution while the dispenser aspirates the other end through a piece of rubber tubing. When the ampoule is nearly full, press the rubber so as to prevent access of air, and seal the free point by holding it in the flame of a Bunsen burner or spirit-lamp. Now take off the rubber tubing and seal the other end. This method is fairly rapid, but strict aseptic conditions may demand that precautions should be taken to prevent the possibility of contamination by the breath. In this case between the body of the ampoule and the point a slight swelling is provided in which is placed—not too tightly—a tiny plug of sterile cotton-wool. If large quantities have to be filled this is not a convenient method, but the dispenser can use one or other of the following processes.

Filling Ampoules having One Opening.—There are several ways of filling the phial-shaped ampoules or tubes which

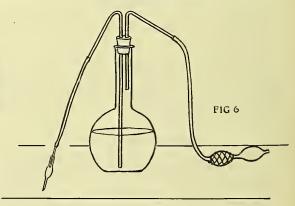
have a closed end.

1. The Vacuum System.—The apparatus devised by M. Eury for sterilising and filling ampoules is shown in fig. 5. It consists of a bell-jar, A, on a ground-glass plate, B, the



neck of the jar being closed by a rubber stopper perforated to allow of the passage of two glass tubes. One of these glass tubes reaches half-way down the inside of the belljar, and the other end is joined by rubber tubing to a filter-candle standing in the beaker M. The second tube is bent at right angles, fitted with a receptacle, c, in which cotton-wool is placed, and further connected, by means of the stop-cock R, with a vacuum pump, T. The various parts of the apparatus are sterilised before use. A Bohemian glass beaker is filled with empty ampoules, open end downwards, and placed under the bell-jar. The required solution is placed in the glass jar M, and a vacuum made by means of the pump. The liquid then forces its way through the filter-candle into the beaker under the bell-jar, and is sucked up by the ampoules. When sufficient liquid has passed to fill the ampoules the tap at R is turned on so as to stop the flow of water in the pump and let the air slowly into the bell-jar. The ampoules are now removed and quickly sealed. This method is a good one for such drugs as may be injured by steam sterilisation, but when the latter is admissible simpler processes suffice.

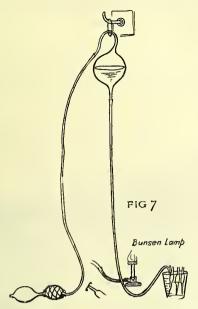
2. Pressure System.—The apparatus needed is that shown in fig. 6. Put the solution into the flask, and into the neck of the flask fit a cork perforated to take two bent glass tubes. One of the tubes reaches to the bottom



of the flask, and is provided at the free end with a hypodermic needle 5 cm. long. The second tube is shorter and is connected with the bellows. The hypodermic needle is placed in the open end of an ampoule, and the liquid forced into the ampoule by a slight manipulation of the bellows. This process answers well for filling large ampoules of saline solution, but a needle is not then necessary, the rubber tube being connected directly with one of the open ends of such an ampoule.

3. Amospheric-pressure System.—This is the method which can be recommended. Fill an ampoule of a capacity of from four to eight ounces with the liquid and fx it one metre above the dispensing-counter, as shown in fig. 7. The straight point of this reservoir is connected with a rubber tube at the end of which is a platinum hypodermic needle

The flow of the liquid is regulated by a 5 cm. long. Mohr's clip such as is used for burettes in volumetric work. As in the case of oily liquids, where it is desired to have more control over the fluid, a spray bellows can be connected



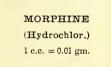
to the bent end of the large ampoule, in which case the Mohr's clip is not needed. The ampoules to be filled are placed in a small beaker, and as soon as filled are sealed by means of the Bunsen flame.

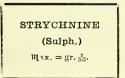
Sterilisation.

The finished ampoules are sterilised by steam in all cases where the composition of the contents admits it, otherwise filling under aseptic conditions must suffice. The advantages of steam sterilisation are that the contents of the ampoules are preserved indefinitely, and any accidental contamination during the filling-process is neutralised. The temperature employed for sterilisation is 100° C. in the case of alkaloids; 120° C. for products unaltered by heat, such as saline and gelatin solutions; 60° C. when Tyndall's method is practised. In the last-named case the ampoules are heated to 60° C. for one hour on four consecutive days, the method being suitable for such drugs as lecithin, calcium glycophosphate, ergotin, cocaine, and morphine. Sterilisation at 100° C. is effected by putting the sealed ampoules into a vessel of water and boiling the water for from half an hour to one hour. For sterilisation at 120° C. an autoclave is needed, and the temperature is kept constant for twenty

Finishing Off.

After sterilisation the ampoules are carefully washed, wiped dry, and labelled with an exact statement of the contents:





They are then placed in boxes made to hold six, ten, or twelve, with space for a small steel file, with which to cut off the points before use. For ampoules of saline solution card boxes of a suitable shape are supplied.

With a little experience the pharmacist will find it easy to fill and seal ampoules rapidly without leaving any carbon deposit at the points. It is recommended to keep a stock of such filled ampoules as are likely to be needed, and if such a list is submitted to the local doctors they may find it a convenience in prescribing and make suggestions for extending the variety.

How Ampoules are Used.

A few words may be devoted to the method of using The usual way is to break off the point of the ampoule by means of a scratch of the file and insert the needle of the syringe. Then by gently manipulating the piston the required quantity is transferred to the syringe. In the case of ampoules of oily or viscous liquids it is advisable to break off both tips, and, holding the ampoule horizontally, close one end with the finger as in using a pipette. The liquid can then be poured into the barrel of the syringe, from which the piston has been taken out. When the piston is replaced the syringe is turned needle upwards, and the air expelled. This method is the most convenient for the physician, and explains why preference is generally shown for the ampoule with two points. This kind is also the cheapest. With ampoules of large size containing serums the straight point is cut off and a little of the liquid shaken out, so as to expel any particles of glass which may be formed. The point is then connected with a rubber tube two metres long, fitted with a platinum needle, and the ampoule fastened up by the bent portion to the bed-hangings by means of a safety-pin. The point of the bent part is then cut off, and the liquid run through the rubber tube to expel all traces of air. The needle is sterilised by heating in the flame of a spirit-lamp, and then inserted under the skin, the place having been previously washed with soap and water and then wiped with ether. By holding the ampoule at a variable distance the flow of serum can be regulated to a nicety. The rubber tubing, needle, and file are sent out in a bottle, the round shape being best, as then the tubing can be coiled round in the bottle. The rubber is sterilised by steam-heating at 100° or, preferably, 120° C.

Addendum.

Since the above was written, an article by Mr. Caswell A. Mayo, Ph.G., on this subject has appeared in the "American Druggist." The methods of filling ampoules are there classified as by:

(1) A pipette; (2) a burette; (3) a hypodermic syringe; (4) a vacuum created by heating the bulb; (5) a vacuum created by means of ether; (6) aspiration with the aid of an Auer apparatus.

1. The tip of an ordinary pipette is drawn out by the aid of heat to a capillary tube. The rubber bulb and the pipette itself are sterilised by boiling for half an hour or by means of a steam steriliser. The sterilised hypodermic solution is drawn up into the pipette and the tip of this passed down to the bottom or near the bottom of the bulb, pre-viously sterilised, and the bulb filled nearly full. The amviously sterilised, and the bulb filled nearly full. The ampoule is then heated to the point of sterilisation, ordinarily 100° C., and the tip sealed while the contents are hot. The sealed ampoule is then put into a solution of methylene blue (about 1 grain to 2 oz. of water), and sterilised by boiling for half an hour, provided the solution will not be injured by boiling, or in a steam steriliser. If any flaw or imperfection exists in the ampoule, its contents will absorb colour from the solution of methylene blue; consequently any which are coloured should be rejected. quently any which are coloured should be rejected.

2. The point of the burette may be drawn out to a capillary tube, or a hypodermic needle or a fine canula may be fused to the end of the burette; or a tube, one end of which has been drawn out to a capillary point, may be attached to the burette by means of a rubber tube. The remainder of the process is carried out exactly as given where for amounts filled by means of a pinette.

remainder of the process is carried out exactly as given above for ampoules filled by means of a pipette.

3. The hypodermic syringe offers an excellent means of filling the ampoules, save for the amount of time required in its use. The syringe should be sterilised before use.

The process is the same as with the pipette.

4. The clean and sterile ampoule may be taken up by pincers, the bulb held in boiling water, or over a Bunsen flame, taking care not to get it too hot in the latter case, until a partial vacuum is created by the heat, and the point of the bulb then thrust into the solution, when the liquid will be drawn up into the bulb.

5. A drop of ether may be poured into the ampoule, which is then held over a flame until the vaporised ether ignites at the tip. The complete evaporisation of the ether will at the tip. The complete evaporisation of the ether will be signalised by the extinction of the flame at the tip, which should then be thrust into the hypodermic solution, which will be drawn up rapidly into the vacuum—so rapidly, in fact, that care must be taken not to fill the ampoule too full. 6. The Auer apparatus is one designed by Auer, of Zurich, and is described by Hager.

South Africa Revisited.

Some Notes of Calls at the Coast Towns of Cape Colony, with Pictures from other parts of South Africa. By a sojourner and others.

A S the mail boat steamed into Table Bay in the early hours of the morning, Table Mountain, Signal Hill, and the Devil's Peak were enveloped with rain-clouds that looked almost black. Away to the north-west of the steamer was Robben Island—that storm-swept island of desolation

at least, in a similar case. The shops and offices "To Let" in the suburbs astonish the visitor. The city proper seems to be keeping close to itself. A giant skyscraper, faced white, stands next to a two-storey, flat-roofed, ancient structure. The principal street—Adderley Street—begins



ADDERLEY STREET, CAPE TOWN.



A GLIMPSE OF THE BOTANIC GARDENS, CAPE TOWN.

[From a photograph by Ravenscroft

to which South Africa sends her lepers. One shivers at the glimpse of it, but maybe the raw morning air contributes.

Since my first visit to South Africa in October 1896 I have seen Cape Colony grow—aye, overgrow. Then Cape Town lived the simple life. By 1899 an inflated prosperity led her to adopt extravagant ideas, and to-day she is making gigantic efforts to get down to earth again. The chemists

kept their heads better than most of the inhabitants. The city and its suburbs are beautifully situated on the slopes of Table Mountain and its consorts. It is well wooded on every side, and there are glorious avenues of oaks and pines within a few minutes' run by car from any point; wild flowers of exquisite beauty grow like weeds, and and grand old Cape-Dutch houses remind one of the pioneers of early days.

In the early 'nineties the average steamer reaching the port was 4,000 tons gross. Even the mail boats took nineteen

days to come out. To-day the ships trading along the South African coast now may be any tonnage up to 12,000 tons. The services are more than maintained, but, in truth, there is neither the cargo nor the purchasing-power in South Africa to keep them all going at a profit. The port of Table Bay has been enlarged at an enormous expense and equipped to handle as many ships per day as report at Hong Kong, but they do not come. Cape Town itself is, for the present

at the sea and ends at Government Avenue. A boy with a sling could send a stone from one end to the other without any great effort. In Lower Adderley Street, corner of Strand Street, the headquarters of Messrs. Lennon, Ltd., in South Africa are located at the corner; the substantial building itself is one of the finest south of the Line. Adjacent on one side is the surgical department, on the other

the photographic — each judged worthy of a shop to itself. The windows and fixtures were admirably dressed, and it is only when looking at these that the vast number of articles foreign to the average English chemist dawns on one. After a few minutes with Mr. Lionel H. Walsh, the local manager, I had a chat with Mr. Albert Walsh, Presi-Mr. dent and General Manager of the company, and President of the Colonial Pharmacy Board. holds many offices as the nominee of the Government, latter among them. He is a notable man-



THE SWAN PHARMACY, CAPE TOWN. Now owned by Mr. A. E. A. Tothill.

one of the strongest business men in South Africa—a dominating figure. He takes little or no interest in politics publicly, but he once went to Port Elizabeth to stand for Parliament for that town, but when he found an old business friend in the field he stood aside.

I asked Mr. Walsh what prospects he saw before the Cape peninsula and Western Province generally, and his answer was to the effect that he saw no immediate

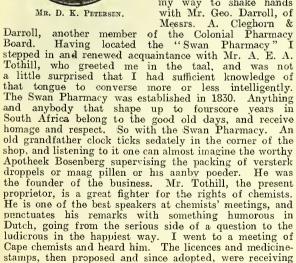
prospects. He has an aversion to being interviewed, and all efforts to get him to talk about the new taxation laws failed. He expressed the hope that my trip through the country would be interesting: South Africa was well worth close attention, both from pleasure and trade points of view, and the different managers of Lennon, Ltd., scattered the length of the land would be delighted to meet me and give me any assistance; but to be interviewed -the head covered with iron-grey hair shook, and I left off asking him.

My next call was on Mr. J. A. Mathew, of Messrs. Heynes, Mathew & Co., the doyen of pharmacy in South Africa and another Government nominee on the Pharmacy Board. Mr. Mathew, who passed the British Major examination in 1859, is still hale and hearty, and attends at his desk with the greatest regularity. He rarely attends while he turns up at a chemists' "smoker" (he smokes an exceptionally strong cigar) and enjoys the fun of the evening. The partners of Heynes, Mathew & Co. are Mr. Mathew and two of his sons—Mr. Frank C. Mathew, who looks after the wholesale part of the business, and Mr. Alfred H. Mathew, who supervises the retail branches. Mr. Frank C. Mathew is President of the Pharmaceutical Society of Cape Colony.

In Barrack Street the wholesale and manufacturing con-

cern of Petersen, Ltd., is to be found. The company is a private one, the control being entirely in the hands of the Petersen family, with Dr. August H. Petersen, who has sat in the Upper House for the Cape District, as President, Mr. D. K. Petersen is the governing director. Another brother, Dr. Julius Petersen, is in the Upper House. The Petersen family is a very old one in the Cape and highly respected. Messrs. Petersen, Ltd., have always had an

eye to increasing the manufacturing portion of their business. Less than fifteen years back they packed a few lines and made a few pills, but the bulk of their business consisted of selling overseas products. To-day they have a large range of counter - adjuncts, fumes, toilet-requisites, and up-to-date machinery for making pills and tablets in their laboratory. After a chat with Mr. Petersen, I made my way to the other end of the town to view what is said to be the oldest chemist's shop in Cape Town, looking in on my way to shake hands with Mr. Geo. Darroll, of



attention. The chemists put up a good fight, but the Government needed the money, and so they lost their cause, though not altogether, for they got the selling-price

of a proprietary medicine that would need a 2d. stamp increased from 1s. to 1s. 6d.; also freedom from taking out the proprietary medicine licence of 1l. per year.

Pharmacies and drug-stores in the Cape peninsula are well conducted and some of them elaborately fitted, but Cape Town needs a population of 100,000 whites to keep them all going as well as their owners want.

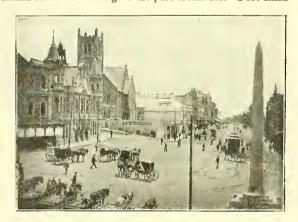
Port Elizabeth.

What Liverpool is to England, Port Elizabeth is to Cape Colony. The business part of the town nestles for the most part at the foot of a hill, and consists of one very long street. Imagine Cromer enlarged to a port, and you get an idea of Port Elizabeth. Here the mail-steamer



EARLY MORNING SCENE IN PORT ELIZABETH. Showing bullocks which have brought in waggons with produce.

arrives every Friday at daybreak. By sunset anything up to 1,500 tons of cargo will have been discharged, and twothirds of it transferred to fast freight-trains for the north. On Monday morning the Johannesburg merchant finds his urgent cargo at his store when he opens, or just twenty-two days after leaving Southampton. As a port Port Elizabeth is proud of this feat. She does it week in and week out, from year's end to year's end. The imperial mail-train that leaves the ship's side at Cape Town for the north, it is said, does not keep better time than the fast freighters from the storm-tossed shores of Algoa Bay. Via Algoa Bay is the fast freight route for the Rand. There is more organisation than appears on the surface-more than the casual observer would give the port credit for. Port Eliza-



MAIN STREET, PORT ELIZABETH.

beth not only imports more cargo proper than any other port in the Cape Colony, but she exports wools and hides to a greater extent than any other.
On shore Mr. P. T. Dixon, one of the directors of

C. E. Gardner & Co., Ltd., wholesale druggists, drove me

round the town to view the drug-stores. Fridays and Saturdays are busy days at "The Bay." In Jetty Street is the pharmacy of Messrs. C. E. Gardner & Co., also the town office of C. E. Gardner & Co., Ltd., and not thirty yards higher up is the establishment of Messrs. James & Co. The senior member of this firm, Mr. K. James, one could pick out of a crowd as a chemist. There are two chemists on the South African coast who adhere to the frock-coat-Mr. J. A. Mathew, of Cape Town, and Mr. James, of Port Elizabeth. Round the corner, a few yards down Main Street, the street of Port Elizabeth, is the Central Pharmacy, the manager of which specialises in optical work. Further on, but on the opposite side, are the premises of Lennon, Ltd. The site on which the building stands is the original home of this concern, which now has branches in every town of note from the Zambesi to the ocean to the south. Apart from its wholesale depôt, the company has a well-equipped pharmacy and photographic department. Continuing the drive, the drug-store of Mr. I. L. Dredge is passed, also branches of Messrs. Willet & Co., until about a mile from the starting-point the pharmacy owned by Mr. J. W. Couldridge is reached. After a few minutes' interesting chat, the "Hill" was negotiated for a glance at Messrs. Willet & Co.'s retail; there Mr. Willet's acquaintance was renewed. Down the "Hill" and almost a mile to the south are the firm's headquarters, presided over by Mr. Warricker, one of the principals. Finally, a visit was paid to Messrs. Gardner's wholesale establishment. They own their own bonded warehouse, carry, as all South They African wholesalers must do, a large and assorted stock of lines for the drug and allied trades, and have a wellequipped laboratory and packing-rooms, the former principally for the manufacture of fluid extracts, tinctures, etc., and the latter for putting up Dutch medicines and counter specialities. The travellers sent out by both Messrs. Lennon and Messrs. Gardner cover the entire Eastern Province, East Griqualand, and Orange River Colony.

Port Elizabeth did not lose its head during the war. Few large buildings of the sky-scraper class are in evidence. It is said that but one huge merchant store was

built about war-time, and this has not turned out a white elephant by any means. On good authority I gather, too, that Port Elizabeth is the most solid financially, the most stable in commerce, of any centre in the Cape Colony.

I proceeded on the steamer journey to

East London.

I pass over the incidents of our landing there, but may suggest that the Town Council have a splendid chance of militant effort to persuade the Union-Castle officials on the shore staff there to encourage passengers to land by using more expedition and creating comfort. As long as the people of East London put up with the present condition of things good money will pass on to Durban.

Oxford Street is the principal thoroughfare of East London. It is a remarkably fine street, with fine shops of all descriptions, and most of the drug-stores are located in it. The first the traveller sees is that of Lennon, Ltd. I entered and had a chat with Mr. C. Atterbury, the manager. Down a cross-street are the splendid branch premises of C. E. Gardner & Co., Ltd.,

of Port Elizabeth, where Mr. G. E. Oliver is manager. In his spare moments Mr. Oliver interests himself in the flora of the district, and C. & D. readers are familiar with his papers on native medicines which appear in its pages. Retracing my steps to the corner of Oxford Street, I viewed the premises of Messrs. McJannet & Co. It is safe to say that there is no chemist more popular in his district than Mr. McJannet. He is a member of the Colonial Pharmacy Board, representing the chemists of the Eastern Province, and he has the reputation of being a hard thinker and good worker in the interests of the trade. Higher up Oxford Street is the pharmacy owned by Mr. D. Bowie, who was in Bombay for some time before he went to South Africa. He is doing his share of

the business of the town in which he now makes his home. There are other drug-stores in East London, but as the ship



OXFORD STREET, EAST LONDON.

left at sunset, and all had to be on board the tug at 2.30, my visit could not be extended. My stay at

Durban

was just sufficiently long to make a few calls, and I send you two photographs which, with a little imagination on the part of your readers, will serve as well as words to show two things. First, by the interior of the Musgrave Pharmacy, how attractive are the interiors of the shops in Natal, and how up-to-date they are in regard to architecture and fittings and in counter display of specialities. The small stained-glass leaded windows on each side of this pharmacy are a pretty attraction. Second, in the



THE MUSGRAVE PHARMACY, DURBAN. Situated in Musgrave Road, and carried on by Mr. C. E. Forth, Ph.C.

photograph of Mr. D. S. B. Anderson's pharmacy, Bulwer Road, Berea, Durban, you have the exterior of typical Colonial business premises. Mr. Anderson is one of the leading men in Natal pharmacy, and has served it well as the hon, secretary and treasurer to the Pharmaceutical Society; yet it is not a decade since he passed the Minor in Edinburgh, and it was after that he left Dunfermline for South Africa. It is he who stands on the stoop in white clothes.

Here end the notes by the sojourner, but we have before us a few other pictures relating to South African pharmacy which make

An Appropriate Appendix to his observations and pictures. The first is from Queenstown, Cape Colony, and shows the interior of the pharmacy which Mr. W. E. Griffiths opened there three years ago. Mr. George King, who is making his first trip to the Colony for Messrs. Evans Sons Lescher & Webb, Ltd., is taking



THE BULWER PHARMACY, DURBAN.

his order from Mr. Griffiths. When he started the business Mr. Griffiths occupied only half of the premises; now he



MR. W. E. GRIFFITHS' PHARMACY, QUEENSTOWN, C.C.

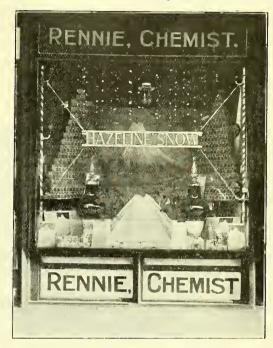
has enlarged the shop to 20 ft. wide and 30 ft. deep. It is well fitted, the bottles and part of the fixtures having been



MR. E. R. HINES' PHARMACY, FICKSBURG, O.R.C.

supplied by Messrs. Evans Sons Lescher & Webb. Local doctors do their own dispensing, so that chemists have to rely upon their business acumen as well as pharmaceutical

ability, and Mr. Griffiths, in spite of the hard times, is building up a good business in proprietary articles. Our next picture comes from Orange River Colony, and represents one of the oldest, if not the oldest, pharmacies in the Colony. It is at Ficksburg, and was established thirty-six years ago by Dr. H. S. Taylor, and was purchased by Mr. E. R. Hines in 1903. The sojourner above mentioned



HAZELINE SNOW WINDOW.

refers to the universality of Lennon, Ltd., in South Africa, and as further evidence of this we may say that the photograph comes to us from one of their representatives, Mr. A. Craig Coats, formerly of Leith.

The importance of proprietary articles in South African pharmacy is well illustrated by the last two photographs which we give, and which at the same time illustrate how up to date Johannesburg pharmacies are. The first of the two is a Hazeline Snow window arranged by Mr. A. Rennie,



EUTHYMOL TOOTH-PASTE WINDOW.

President of the Pharmaceutical Society of the Transvaal, in his Pritchard Street pharmacy. The window at night was most distinctive, being illuminated by coloured lights. The second photograph is a Euthymol window arranged by the manager of Messrs. Lennon's pharmacy, also in Pritchard Street, Johannesburg.

Messrs. Parke, Davis & Co.'s Works at Hounslow.

LABORATORY in a garden "they call it, and anyone who takes the long and tortuous journey from the City of London is amply rewarded with a piece of actuality when he gets to Hounslow, sees the fine building which is figured on this page, and inspects it inside and out. The place was Heston Farm when the late Mr. William out. The place was Heston Farm when the late Mr. William Warren came over here while general manager of Messrs.

Parke, Davis & Co. to see what Mr. F. M. Fisk's proposition for the purchase of the freehold actually meant. There were a farmhouse and a mill on the grounds, an extensive orchard, gardens, lodge, and all else that goes to make a farm in suburban London. The purchase was made, and the old buildings were used until the factory was erected and com-pleted. The farmhouse is now a clubhouse for the staff at Hounslow, the mill is a storehouse, and adjacent buildings form boiler- and engine-houses, engineers' workshops, and storage places, so that the manufacturing is concen-

trated in the new building. There is room in the grounds for eight more like it, and if the American history of the fact with his signature assists in making a complete record which becomes available at any moment, and so enables

century is half

through. We do not profess to do more in this article than describe the gene-The building rally. verandahs or covered gangways outside are a good fea-ture. They give shade in summer, and all the year through are used for conveying goods from one part of the factory to the other. Thus the internal passages

clear. The principal entrance is seen in the picture. The windows to the right are those of the manager's room; he is Mr. R. C. Brown, a Canadian-born pharmacist, who has been with the firm twenty years, first at Detroit, later at Walkerville, Ontario, and at Hounslow since 1904, a capable, practical pharmacist, initiative organiser, and systematic in all his dealings. Mr. Brown is the right man for planting a branch of the New World's industry in the Old Country. His room overlooks a general office, where interdepartmental and laboratory and warehouse accounts are kept as if one were the seller and the other the buyer. To the left of the entrance are rooms devoted to the formula department, where thousands of cards are kept. The C. & D. visitor was inquisitive about this for the content of the con this, for the system seemed so elaborate and painstaking that the wonder was that it could be controlled by one chemist and two or three clerks. The inquiries showed that co-operation in and co-ordination of all departments in each

> plicity. We show what this means by selecting a card dealing with the manufacture of a galenical preparation: Material received Product wanted
> Made by
> Filtered by
> Amount B.

piece of work reduce

the elaborate to sim-

Weights and measured
by
Material ordered
Material examined and
approved by
Product promised
Examined by
Method used
Amount yield
Duplicate B No...
Modification of B No...
Weights and measures Weights and measures checked by There is more on the card than these items details —business

chiefly; but every item connected with

a query to be answered. "It pays," said Mr. Brown later, "not by detecting errors, but by avoiding them. System pays anyhow, especially where there is much detail, as in a business like ours."

With this initial glance at the system of the factory we proceeded to the inspection of the manu-facturing and packing depart-ments, looking in on the way



GALENICAL LABORATORY.

"A LABORATORY IN A GARDEN."

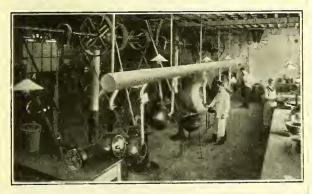
at the fine laboratory which has been superbly fitted up for analytical and experimental work-work which must be a pleasure to the chemists who spend their days there, considering the completeness of the equipment and the comfort of the place. From this we pass along the corridor to the general pharmaceutical department, a steam laboratory peculiar in respect to the fact that steam is absent from the atmosphere, thanks to the arrangement of hoods over the steam pans, which hoods are connected with an 'exhaust' that not only carries away the steam but

expedites evaporation. We give an illustration of this department. The room is 75 ft. long by 50 ft. wide. Among the operations that we observed in it were preparation of liquid extracts by percolation; evaporation of percolates for solid extracts, cod-liver oil emulsion making, compounding of ointments and enthymol toothpaste, and massing Blaud's pill (250 lb. at a time). Several exceedingly ingenious mechanical appliances were observed here, but space prevents our entering into details. Part of



SECTION OF LABEL DEPARTMENT.

this large department is partitioned off by a glass screen for fine work, such as the making of glycerin suppositories and filling adrenalin solution into sterilised phials under aseptic conditions. The manager of the department has a bay to himself, in which clerical records can be done peacefully. This is so situated that he sees all that is going on in the place. The next room on the ground floor is a store for drugs and chemicals. All the goods here filter, as it were, through the analytical department, where everything is examined and passed before it is stocked. The store is run as if it were a distinct business. Each department



SUGAR AND CHOCOLATE COATING DEPARTMENT.

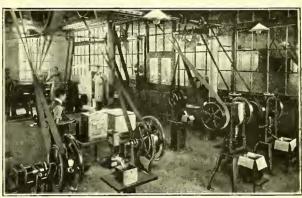
"buys" from it, and every "sale," whether from a pound bottle or a ton bin, is charged up. Every container bears a tag showing the amount it originally contained and when received. Each time any is taken for a department the quantity, date, and purpose for which it is required are entered on the tag. When stocktaking-day arrives the tags do that business.

We now ascended by a fireproof staircase to the first floor of the building. This is devoted to pill- and tablet-making, and it is a revelation of modern methods. We see all the processes of pill-making here, from massing to finishing—all being done mechanically, until the finished pills reach a room where women are engaged in rejecting imperfect pills. Again we must avoid going into all the details, for the pill-record card tells us that forty-eight operations of one kind or another occur in making a batch of pills from the time that the formula-card is issued by the formula department until the finshed product is sent to stock-

rooms on the second floor. Some of the operations are checking or clerical, but forty-eight pairs of eyes are sequentially directed to see that every detail is right. The coating departments are perhaps the most interesting. Sugar and chocolate coating are familiar enough, being an adaptation of the old almond-sugaring process—here seen with some modern refinements for expedition and perfection. Gelatin-coating in contrast with these is constantly progressing mechanically. It is themost expensive process of coating, and, as there is no difference in price to the buyer, mechanical improvement is stimulated, since it means reduction in cost. Messrs. Parke, Davis & Co. use the vacuum principle in gelatin-coating, whereby there is no pinhole.

By means of an ingenious suction-device, the pills are held on a hollow metal frame, which is so far dipped into melted gelatin that one-half of each pill is coated. When the coating is dry, the pills are transferred to another hollow frame, and the remaining half of each pill is similarly treated.

This seems simple, and looking at the machines working one wonders why anybody ever attempted to coat pills with gelatin in any other way. But there are about a dozen



A VIEW IN THE TABLET-MACHINE ROOM.

types of machines in the room, showing progressive evolution to the latest, an automatic coater, the essential part of which looks like an endless band of brass 3 feet wide, divided into segments some inches broad, each of which is hollow and has 600 holes in it. When the machine is at work the band moves, and as each segment reaches the operator she fills the holes with pills, presses a lever, the air in segment is withdrawn, the latter turns turtle, is dipped into the gelatin bath, raised, and passes out of sight. The machine is a masterpiece of ingenious mechanism, originated and produced in the firm's own engineering department.

Tablet-making seems not so fascinating an operation as pill-making, because the spectator's apprentice-days were very full of pill worries which such machinery has wiped out. On the other hand, tablets have been introduced in a mechanical age, when scientific study of the materials and mathematical adjustment of the apparatus enable the tablet-maker to feed his machine with the granulated medicament and an electric motor does the rest. Several rooms on the first floor of the Hounslow factory are reserved for these operations. White goods in one compressing room, coloured in another, poisons in a third; and a particularly beautiful room is used for hypodermics, which are all made under glass cases so that the operator breathes neither fumes nor dust—in many instances highly toxic. There is an air-exhaust in the cases and electric light also.

The second floor of the building is the finishing floor. Here all the products of the laboratories are received, stocked, and bottled. The main packing-room measures 75 feet by 50 feet, and there are others on the floor, one of them being devoted solely to filling tubes of euthymol tooth-paste and finishing them off for consumers. The label-room is the heart of this floor. The fact that it contains labels in practically all European languages means much, but this is quite secondary to the system prevailing, whereby the labels given ont are

recorded in a card-system distinct from that of the manufacturing departments, and a packer has to account for every label she receives. It sounds formidable, but the system works smoothly and expeditiously, and is an effectual check on accuracy. The floor contains stores for supplies of all kinds needed in packing, all arranged on time-saving methods. We should have said before now that the motive power throughout the factory is electric, motors being placed wherever they are required, and the power is produced in the place. The outside buildings contain a bottle-washing department, this equipment including sterilisers for phials.

These notes do not pretend to do more than indicate generally the nature of the equipment and organisation of the place. The central idea is to secure perfection of production with certainty of accuracy and potency, combined with economy and celerity. Its purpose is to furnish the firm's European branch with products prepared according to customers' private formulæ, and standard products which cannot conveniently be drawn from Detroit. It is a branch factory, but so complete in itself that the visitor is apt to forget that it is not the headquarters of the firm. At present it gives employment to between 130 and 160

The Chemist-Optician.

Published by "The Chemist and Druggist," price 4s.

THE "American Journal of Pharmacy," reviewing this book, says:

This small volume of 210 pages is written and published expressly for retail druggists who, in a great many parts of Great Britain, as well as in the United States, are dealing in spectacles. It aims to do away with haphazard processes of selecting eyeglasses, and gives the dealer the scientific principles, optical theories, and the technique on which the proper fitting and adjusting of glasses to those whose sight requires visual aid depends. It is a concise treatise on the spectacle-business, and sight-testing and spectaclefitting are now said to be well-recognised branches of the chemist's business. It is predicted that as the chemist's education and training conduce to carefulness in sighttesting and spectacle-fitting, that in the near future a greater part of the business and development of ophthalmic optics will be in the hands of the chemists and druggists.

The book is written in a style devoid of unnecessary scientific and involved technical methods. Its object is to present in every-day language the subject, and to supply the want of a popular and handy volume, printed to supply the needs of the pharmacist-optician, and to make him proficient in this profitable and legitimate side-line.

The optical principles of light-refraction, lenses, and

prisms are concisely treated; likewise the mechanical features of manufacture. The chapter on spectacle and eyeglass frames is characterised by simple descriptions of the parts, shapes, styles, structure, and composition and methods of measuring. It is followed by instructions for face-measuring and adjusting.

Outlines for making repairs are given as a matter of information for the dealer, even if it is not possible for him to undertake such work on his premises.

The several chapters devoted to the structure of the eye, functions, refraction, defects, and diseases of the eye are treated with characteristic brevity and clearness. A short chapter is devoted to the subject of artificial eyes. The chapter treating of drugs which act on the eye is an excellent compilation in a most compact form of the action and value of the known mydriatics and myotics.

The several methods and apparatus used for sight-testing, arrangement of the testing-room, practical instructions for testing for myopia, hyperopia, astigmatism, and presbyopia, etc., all receive concise treatment.

The chapter on optical prescriptions is a very excellent exposition of this branch of the subject. It is followed by another chapter devoted to the subject of ordering glasses from the manufacturer and the keeping of proper records. The part devoted to bibliography is an excellent index to the literature on this subject.

This handy volume should prove to be of value, and a practical handbook to every dealer in this class of wares.

Leeches.

By a Country Chemist.

PROBABLY no greater change has taken place in medical practice and surgery during the last twenty-five years than in the use of leeches. It would be interesting to compare the annual output at the present day with what it was a quarter of a century ago. At that period the "consumpt" of that interesting creature in Paris alone was over 12,000,000 annually, and the output of just one small breeder 1,000 leeches per day.

I have been led into a vein of reflection in this direction through a very simple incident. In changing the water of a small stock still kept on hand for emergency cases recently, I brought the jar containing them into the front shop in full view of customers. The jar created the greatest interest possible; interest on the part of the older generation, brimful of reminiscences of the use of leeches in their early days, when in nearly every household there was a tumbler or pickle-jar with a leech or two in it, covered over with muslin, as part of the regular furnishings. Next to the astonishment of the older generation at still seeing leeches is the curiosity with which they are studied by the younger generation, many of whom do not know what they are, leading to questions which recall my own early wonderings, such as what do they feed on? or which end do they bite with? Regarding the former query I venture to think it will not be disputed that leeches are the cheapest boarders, as even before reaching maturity it takes them one year to digest one good meal. Regarding the latter query, I used to consider there was so much uncertainty about the bitingend, it was safe to advise, if the place on which it was to be placed was suitable, to upset the chip box or glass over the part and allow the leech to discover the "biting part" for itself. It was settled in a kindly way for us by my old apprentice-master, when, as we hesitated to plunge hand and arm among them he counselled us not to be frightened, "as they always stuck with the wrong end first"! These were the days when in a small, healthy seaside town of 4,000 inhabitants the order at very frequent

intervals to wholesale houses was "fifty good leeches."

There were two things I then learned, which, though not so often required now, might tax the pharmacist at any moment—viz., how to stop bleeding from a leech-bite and what to recommend in case of a leech slipping over into the stomach. The former trouble is due to the fact that the leech secretes a ferment which prevents the blood coagulating, but a touch with lunar caustic or with a glass rod dipped in liq. ferri perchlor. fort. "kills" the ferment, as a rule, the blood coagulates and closes the wound. Failing that the ferment must be "killed" by heat (160° F.), and I shudder when I recall how a doctor once stopped leech-bite bleeding in me by dipping a tuft of cotton-wool into boiling water, then into the leech-bites. I literally squirmed. Bleeding the gums was of common practice, and where the leech-glass was not available it required considerable dexterity to fix a leech. The apprentice took a pride in the leeches, and by a gentle pressure when handling them could readily tell a good healthy one by the bean-like firmness with which it responded to the touch. We have fallen on degenerate times. I discovered a young man recently trying to take one out of a jar with

a spatula.
What is the moral quite apart from these reflections? I had no mercenary motive in exposing the leech-jar, but it is curious that if you put inducements in the way of the public they will purchase. I had difficulty in persuading at least one person against the belief that a leech was the very cure he required; and it was, to say the least of it, a coincidence that on the forenoon and afternoon of one day recently a leech was sold. The time is past, apparently, for keeping goods, however well known, out of sight, and all points to temptingly laid-out displays.

Thrice welcome! thou son of a gun!* Clean and bright, he who reads thee may run! As lawyer, as doctor, Or physic concocter This Diary annexes the bun!
S. B. Strickland, Birmingham.

^{*} Apologies, but it does come from Cannon Street.

A Bicentenary.

IN our issue of January 2 there was an advertisement with the unusual headline—

1709 (200)1909.

The "genuine advice" that followed was about the well-known "Opposite" eau de Cologne, and recalled a portrait and sketch of the life of the originator of the perfume which appeared in the C. & D., June 15, 1875. We reproduce the portrait, which was the seventeenth in the series of



asis Lod M. Gis Maria farina

lithographs engravings wood that "The constituted Снемізт AND DRUGGIST Portrait Gallery. Giovanni Maria Farina was Italian by birth, and, settling in Cologne, changed his name to Johann on becoming naturalised. kept a shop opposite Julich's, where he sold jewellery, trinkcts, and perfumery. He was there in 1709, for his business books are still in the possession of the firm, and Kölnisches Wasser is among the entries at that period, beyond which his de-

scendants have not ventured to go. The present partners are J. M. F. C. Heimann, A. Mumm von Schwartzenstein, and Johann M. Heimann, son of the senior partner, who are directly descended from the founder's nephew and godson, John Maria Farina (1713-1792), to whom the business and secret were bequeathed in 1766. The headquarters have been on the same place for 200 years, but the present building was



GEGENÜBER DEM JULICHS PLATZ, COLOGNE (Opposite Julich's Place).

erected in 1899. The shop is at the corner to the right, and immediately behind it are the offices. The partners' town residences are to the left of the shop, and the factory is behind the building. The old pump in front of the house still stands—a relic of antiquity, but a landmark. Some people have a joke about the water being an essential ingredient of the "genuine" article, but the joke has become so hoary-headed that it no longer induces a smile.

The perfume was first put up in the long green bottles with which some chemists are still familiar. A sketch of this bottle appears in the centre of the next engraving. There is still a good sale for these bottles, but the white flint bottle to the left (2-oz. and 4-oz.) and the wickered



series are those most in favour now. As to how the perfume is made, we believe we are not giving away the secret in quoting from our article of June 1875:

The essential oils used are produced by certain flower-farmers in the vicinity of Grasse, who supply Mr. Farina exclusively. In the manufacture itself there is nothing remarkable to be noted. At stated periods the proprietor retires to a certain strong-room, where, in solemn solitude, surrounded by thousands of pounds' worth of these precious oils, he combines such of them as are required. This mixture is added to the spirit in great casks, and the perfume is always allowed a few months to mature before bottling. A curiosity which may be mentioned is that when the casks are emptied there is invariably a deposit of a sort of bluishgrey mud, the result, we suppose, of some chemical decomposition between the spirit and the essential oils. This mud, in a tolerably thin state, is collected and bottled and given away. The poor people of Cologne have great faith in its virtues as an embrocation in cases of rheumatism.

The "curiosity" has a special interest nowadays, when knowledge of the constitution of essential oils has so much advanced. Methyl anthranilate has a peculiar bloom akin to blue-grey, and probably the colour of the deposit arises from this. On the other hand, science has done nothing for eau de Cologne. Johann Maria Farina 200 years ago made the same article as his successors do to-day. It is perfect of its kind, and science is unequal to making a better.

It is interesting to note that the firm's agents in the United Kingdom, Messrs. J. & R. McCracken, 10 Bush Lane, London, E.C., are fairly on the way to their centenary. The agency was taken up by the brothers James and Robert McCracken in 1833 when they were in business in Old Jewry. They were succeeded by Robert, Frank and Arthur, sons of Robert McCracken, senr., and the present partners are the said Arthur and Mr. P. J. F. McCracken, son of Robert McCracken, junr.

"Cheapest in the World," so a Lyons pharmacy is advertised to be. The owner presumably does not forget that remedies which are not genuine are never cheap, for part of his modest window-display is a certificate to the effect that certain barrels of cod-liver oil have been guaranteed by the Government of King Haakon as the genuine produce of the Norwegian fisheries.

Selling Chemists' Businesses.

By Jay Mack.

N the previous article of this series (C. & D., January 9, p. 56) a promise was made to provide a workable plan whereby a heavy stock can be reduced to a limit sufficiently low to make the business marketable.

The first item of the reform is to reduce your stock. That is the only way to bring the price within reach of the average buyer to-day, unless you are prepared to give it away. Buy from one house drugs, "patents," packed goods, and every sundry they keep or will get for you. Make exceptions only in such cases as direct "patents" and

a few sundries. Choose any good house nearest you, so that you can get your goods Hints on Buying.

in two or three days. Send your order weekly on the day which suits you best. Do not order before you actually need the goods, and you will find your bankbook climbing up and your stock climbing down in a way which will astonish you. If you make your bargain to begin with, your profits will not materially suffer if your business is taking 1,000*l*. to 1,500*l*. a year. Bigger businesses than that have, of course, to make exceptions; but as big businesses are being forced into limited liability for family reasons and from the fact that few men have cash to buy them, this article is not in any way dealing with them.

Wholesalers' lists are becoming more comprehensive every year. It is astonishing what they now have to offer, and the number of "specials" they will put up for you and leave you 50 per cent. to 100 per cent. is practically endless. Thus you are able to run out of your big stock of bottles, and especially labels, which latter for proprietaries run

out to $\overline{7}s$. 6d. and 10s. per thousand. There is no carriage to pay for goods inwards, for it must be a very poor business which cannot reach a 2l. 10s. mixed order weekly of drugs, patents, and sundries when you buy all from one house. Few men up to 1,500l. do much in buying patents direct.

Local wholesalers exist in most districts, from whom you can buy acids, glycerins, ammonia, and "heavies" generally in very small lots at low prices, thus saving

carriage, breakage, and loss in handling.

Stop carriers' contracts, even if the buyer of your business has to begin again later on. I do not believe in them ness has to begin again later on. I do not believe in them for small businesses; they are an inducement to order a 14-lb. parcel of "patents" in order to get ½ of some wonderful "patent" for a "special" order. It will pay you far better to get "specials" on half-postage (paid by customer, or even wholly by you) rather than pile up a 14-lb. weight of "patents" which you could easily wait for to the week-end.

Carriage-paid terms and the continual striving of the small men to reach these terms when they buy from halfa-dozen houses are another reason for most heavy stocks to-day. Give it up! Do not strive when you can get what you want without; the thing is ridiculous. It is like buying your bread from three bakers so as not to offend either. Surely the day is past for that sort of "buying." Settle your "supply" of goods; get terms to please you, then you will know where you are; and instead of 100 accounts you will have two or three and can check the

rise or fall of your stock every week, as will be explained

hereafter.

Stock

The foregoing will prevent stock accumulating. Now you have to deal with the accumulation which you have on hand;

and if you can arrange to see only those travellers with whom you deal, you will do Reducing. it easily in two or three months.

Set aside a room or a row of shelves entirely for old goods. Go round your stock, every drawer; weed out every old chest-protector, all old sponges, perfumes, loofahs, socks, soaps, "patents," photographics, and all dirty or soiled goods, but keep them in one place by themselves; that will daily remind you of their presence.

Keep a corner of each window for cut-down goodsbargains (call them what you like). Have a stocktaking sale if you care to, especially if you have a lot of photographics. Empty the perfumes into stock bottles and sell from bulk. Order new perfumes in \frac{1}{6} and \frac{1}{4} dozens from your wholesaler.

Return "patents" to makers for exchange into smaller, or send to wholesaler, who may give you 15 to 20 per cent.

off cost, which is much better than keeping dead stock.

Keep a "Wants-book" on the counter ready open, and chain a pencil to it. Divide it into three heads, "drugs,"

"patents," and "sundries."

Give to bazaars and for club prizes such goods as mirrors and toilets generally which will not sell. Give to nursing hospitals any wool jackets, etc., which will not go when offered at 50 per cent. off cost.

The proof of the efficacy of this scheme is given below, and if I can do it down to 180l. per 1,000l. of returns, you might perhaps be able to get it down to 150l. I set myself last March to see just how little stock I could really do with (outside of the winter months, of course), and here are the results in figures:

| | March | | per 1,000l. | rcturn |
|---|-------------------|-------|-------------|--------|
| Actual stocktaking | June September | 2341. | ** | ** |
| Estimated as shown further on | October | 180%. | ** | ** |
| Asserting occurrence of the control | October | 1000. | 1* | ** |

My returns and profits were level with the previous year, and I was never "out of" stock.

Take stock (roughly) when you get your weeding-out process in full swing. Begin with "patents"; any apprentice can take them. Use big sheets of white demy, rule half-a-dozen lines down each page, and let the apprentice carry them out at cost:

| Do not haggle over pence | Patents Bulk drugs | £100 100 |
|-----------------------------|---------------------------------|-------------|
| | (Sundries | 200 |
| | / Wall-bottle drugs (at 1s. 6d. | |
| | bottle-contents) | 20 |
| Estimate this lot in twenty | Dispensing-counter (at 1s. con- | |
| minutes, unless you like to | tents) | 10 |
| plod through it as I did. | Poison-cupboard (at 6d. con- | |
| | tents) | - 5 |
| | Returns to firms | 10 |
| | | |
| | 1 | 445 |

Date of Stocktaking, say end of September.

In watching the rise or fall of stock, suppose the above is 445l. per 1,000l., and you want to cut it down, you can watch it this way :

| | • | | | | |
|--------------------|-------|-----|------|--|------|
| September | end. | | | October end. | |
| Stock | | | £445 | Takings (October) | £150 |
| Bought since then | (less | re- | | Accounts due to you | 24 |
| turns) | | | 40 | | |
| turne, in in | ••• | ••• | | | 174 |
| | | | 485 | Less one-third gross profit | |
| Goods sold at cost | | | 116 | The same of the sa | |
| | | | | | 116 |
| Stock October end | | | 369 | | |

For the four weeks of October you kept the orders down to 7l. a week from your chief wholesaler, leaving 12l. as odd

purchases from other firms.

One other point before I close this article (the finance part will be the next). Watch such stocks as dyes, Maypole soap, dog-pills, enamels, homœopathic goods, and perfumes. Keep a postcard in the drawer or cupboard showing the prices, sizes, and stocks to keep of each size or colour or kind, so:

| | | | DIAIPC | TE E | OAF. | | | | |
|-------|-------|-------|----------|------|-------|--------|-----|-------|---|
| | | Stock | | | Stock | | | Stock | c |
| Brown | | | Crimson | | | Navy | ••• | 2 | |
| Black | • • • | | | | | Maroon | ••• | 2 | |
| Cream | | 2 | Cardinal | | 1 | Lireen | | 2 | 4 |

The stock and colours being, of course, the kinds in demand in your district and the numbers which experience has shown you to be the lowest necessary to meet demand. Do your own assorting; do not expect travellers to do it for you, or wholesale houses either.

COPY OF AGREEMENT.

I agree to sell you my business for 1001. goodwill and valuation of stock and fixtures by mutual valuer (items in house extra).

I also agree to go through the stock with you before valuation and set aside in a separate room all optics, photo, toys, and every scrap of old or slow or dirty stock (which you and I can reasonably agree on), and to accept a special price of 25 per cent. to 75 per cent. off cost, as may be agreed on when we come to value it.

I also agree to let the valuer state separately the value of each class of such stock for your guidance in clearing it, as well as the total of that stock-room.

A System of Accounts for Chemists and Druggists.

In less competitive times long ago very simple accounts sufficed for most chemists and druggists—indeed, the balance shown in the bankers' pass-book was oftener than not the measure to the individual of "How do I stand?" This is a thing of the past. In order to meet modern competition, profitable side-lines and new departments have been introduced into the business, and these not only vary widely in their yield of profit, but often tend to become less remunerative as time passes; hence much more careful watchfulness upon the profit-and-loss account is

It is an undoubted fact that while many successful pharmacists have neglected the scientific side of pharmacy from the day they secured their qualification, no man has yet succeeded in pharmacy without giving reasonable attention to the commercial side of his business. The younger generation should pay particular attention to this, and it is largely for their benefit that this brief monograph on account-keeping is published. The system outlined represents the combined wisdom of a professional accountant and a pharmacist of scientific leanings and business acumen who had a small business with a small staff. He had to keep accounts at odd times, occasionally deferring such work for days or even weeks. It was necessary that confusion should not arise under these conditions. In short, a system of accounts suitable to the majority of chemists' businesses should conform to the following requirements:

1. It should be simple and involve as little labour as possible, and it should permit of the posting of some of the accounts by an assistant without danger of confusion or the disclosure of private information. It should also permit of the posting of accounts at convenient intervals, and independently of one another, without confusion.

2. The system should permit of modifications being introduced when necessary, without disorganisation, and enable the chemist to satisfy himself as to which branches of his business yield a fair profit. For this purpose the system should allow of ready analysis of expenditure.

3. The accounts should be, as far as possible, self-checking, and errors readily detected. They should be arranged so that the banker's pass-book should prove the accuracy of the accounts. The market value of a business depends largely upon the seller being able to satisfy the buyer as to the trustworthiness of his accounts.

The system hero described satisfies these requirements. In selecting account-books a smaller size than foolscap

should be avoided. The continual carrying-over to new pages interferes with the clearness of accounts. Books of sufficient size to last for some years are preferable. Fortunately, books and paper are inexpensive at the present time, so the outlay need not be large. The following books will be required:

Day-book

Goods sold to customers upon credit are entered into this book in the customary manner.

Journal.

This book serves the purpose of the journal of the ordinary double-entry system, but the entries are not made in chronological order in the system described. This book should be provided with a double-money column.

Sundry Persons Ledger.

Articles sold upon credit to customers should be posted into this book in the usual manner, and goods purchased upon credit may also be posted into it from the stock account; but separate ledgers for goods purchased and goods sold may be thought desirable. The pages should be ruled with debtor and creditor sides.

Petty cash Book.

The numerous petty payments made by chemists should be entered into this book. It should be ruled with half-a-dozen or more money columns, as these payments will be found to sort themselves out under such headings as rail, stock-purchases, wages, postage, etc. It saves much trouble and facilitates economy to carry each class of payment into its own column.

Private Ledger

This may be kept under lock and key by the proprietor of the business. Into this book the totals from

the other books are posted, and from it the revenue account and balance-sheets are drawn up.

Having obtained the necessary books, the first step should be to discover what gross profits the business yields during a year or other convenient period. In order to ascertain this, stock accounts in the Journal and Private Ledger should be opened.

It will be found convenient to file the invoices for each month, and at the end of the month to sort them out under different headings, such as proprietary articles, drugs and chemicals, photographic, optical, and so on, and first enter them into an account opened in the Journal as follows:

Thus entered the list of purchases serves two important purposes. It gives the total amount of goods purchased during each month, which should be debited to the stock account in the Private Ledger, and it also shows the amount of goods of different classes purchased during the month—a matter of great importance; for if we find our purchases and sales have been in the unremunerative branches of our business, we should naturally at once consider any possible steps for diverting trade into more remunerative branches, and should we find that the profit-and-loss account affords unsatisfactory results at the end of the year, this account will materially assist in discovering the cause and remedy.

Obviously the classification can be varied at any time without confusion, a new class being introduced when thought desirable. The money entered in the Petty-cash Book for stock purchase must also be posted into the stock account of the Private Ledger, and these added together

give the total stock purchased.

In order to ascertain the value of goods sold we must add up the prices carried out into the money columns of the Day Book for goods sold upon credit to sundry persons. The total for each month should be posted into the stock account of the Private Ledger. By thus posting the monthly returns into the Ledger we are able to compare the totals with those for the corresponding months of previous years.

All the cash received for cash sales and accounts paid should be registered on a till-roll or some form of till which records each item. This cash should be periodically paid into the bank, and the amount paid in entered into a cash account in the Journal or Private Ledger. It is important that the amounts paid into the bank, those entered into the cash account, and those recorded upon the till-rolls should exactly tally. By this means we can best prove the genuineness of our accounts.

As the money passed through the till includes money paid for goods sold upon credit, which has already been posted from the day-book to stock account in the Private Ledger, it is necessary to separate the amount received for cash sales. This can be done by deducting the total amount received in payment for goods sold upon credit, and the

entry into the cash account should be made thus:

The cash sales only should be credited to stock account in the Private Ledger. We have entered into the stock account the value of the goods purchased and the value of the goods sold during the month, but in order to arrive at gross profit it is necessary to make certain corrections for stock-intrade and for trade discounts, bad debts, etc. Cash Account.

As above stated, a cash account should be opened in the Private Ledger or Journal, and this account should tally exactly with the bankers' pass-book, which thus proves the accuracy of the accounts. Cash received has been dealt with. Money received for goods sold upon credit is best acknowledged by small tickets from a book with counterfoils, thus obviating any risk of omissions and consequent annoyance to customers. These payments should be credited to the accounts in the Sundry Persons Ledger direct from the counterfoils. All payments except petty cash payments should be made by cheques, these payments being entered in the cash account and posted to the accounts in the Sundry Persons Ledger when for goods purchased upon credit, and into accounts in the Private Ledger when for such payments as rents, rates, or other expenses. A cheque for petty cash should be drawn from time to time as necessity arises, but this cash should be posted into the Private Ledger from the Petty Cash Book, the total from each column being posted to its corresponding account. cheques drawn for petty cash will prove the correctness of that account.

Discounts

The amounts paid by customers for goods supplied upon credit does not exactly balance these accounts; a deficiency is caused by discounts, bad debts, and other allowances, and the cheques drawn in favour of wholesale houses are less than the amount of the invoices to the extent of the discounts. In order to adjust these discrepancies it is necessary to open a discount account in the Journal and carry the debit or credit balance of this account to the stock account in the Private Ledger in order to correct it for such deficiencies.

Stock-in-Trade.

It is self-evident that it would be impossible to arrive at the profit or loss incurred without a careful stocktaking at least once a year. Unfortunately, this is not always an easy task in the chemist's business, owing to the large and varied number of items forming his stock. This is particularly the case when the business includes several side-lines. In some cases an annual correct stocktaking may be impracticable. A fairly correct estimate of the stock can, however, usually be made if this is carried out upon some good system.

In estimating proprietary articles it is sufficient to count up all articles at 1s. $1\frac{1}{2}d$., those at 2s. 9d., and so on, and enter the totals into the stock-list, a deduction being made to reduce the value approximately to cost price. The number of gallons of tinctures made with rectified spirit can be quickly estimated, as the capacity of the bottles containing them will be known, and the total estimated at the average cost of such tinctures. Tinctures made with proof spirit, concentrated infusions, and other preparations can be similarly estimated. Of course, any special items of larger value should be dealt with separately, and it is well to deal with each class of goods by itself.

In estimating stock a good look-out should be kept for goods likely to become old stock. These should be disposed of if possible; a look-out should also be kept for stock showing signs of deterioration, and if an unduly heavy stock of any class of goods should be discovered a note should be made, with a view to reduction. With care it is possible to estimate the stock within 10 per cent. of its true value, and although such an error would decidedly affect the profits upon any one year, its effect would be less appreciable when estimating the average profits in a period of three or more years.

Fixtures and Furniture

should be valued at their cost, a deduction of, say, 5 per cent. being made each year for wear and tear. The addition of any furniture or fixture during the year must of course be noted, also the disposal of any item. It is best to open a fixture account in the Private Ledger or Journal in which such deductions or additions are clearly shown.

Revenue Account.

If the stock-in-trade held at the beginning of the year be added to the goods purchased in the stock account, and the stock-in-trade held at the end of the year

added to the money received for goods sold, necessary corrections being made for discounts, etc., the balance shown by deducting one from the other will give the gross profits for the year's trading. In order to arrive at the net profit, it is necessary further to deduct the expenses incurred and other payments made during the year, as shown in the accounts contained in the Private Ledger. A revenue account should be opened in that ledger to which all the balances from the different accounts should be posted on the debit or credit side, as the case may be; the balance will show the net profit during the year.

A Balance sheet should also be shown in the Private Ledger. In this all assets and liabilities should be carefully set out. The chemist who keeps his accounts upon a system such as this can readily and correctly ascertain his profit or loss, and also tell which branch of his business is most remunerative. It helps him in economising in his expenditure, and he will find that he has a great advantage over his neighbour who manages in a rule-of-thumb manner. It is evident that the man who has mastered the elementary principles of accounts is much more likely to discover discrepancies in account in the statements made by those offering businesses for sale than one who has neglected this branch of his training.

Chemist and Seedsman.

Hints on the Trade in Seeds and Agricultural Preparations by a Pharmacist.

THERE is one section among us that can look forward to the new Regulations regarding the sale of agricultural and horticultural poisons with some degree of equanimity-viz., those who can exhibit over their doors the double designation "chemist and seedsman"; and in not a few country towns they can view the changing aspect of affairs with a degree of comfort unappreciated by the city pharmacist. In a number of other cases it must now also be a question of stocking and handling a class of poisonous goods to which many chemists have hitherto been strangers, or allowing them to pass for ever out of their hands. On the other hand, the seedsman and chemist can only welcome a change which is likely to improve his position from a strictly commercial point of view, in limiting the sale of those articles to the men who are qualified to handle them. It is to be hoped that chemists generally, and provincial chemists especially, will put themselves in a position to take full advantage of Section 2, and begin to stock now, if they have never done so before, the poisons which come under that section of the new Act. As a rule these are tidily put up, are no bulkier than oils or varnishes sold by nearly every chemist, and are as profitable and as honest as the patent-medicine trade. The chemist-seedsman has all along been as much at home in handling

Dips, Weed-killers, and Insecticides

as in selling syphons of lemonade or soda-water. Those who may have any hesitation in the matter may be reminded that the poisons covered by the new Regulations require neither a large nor an expensive stock. Horticultural insecticides go into little bulk, while the stock of dips and weed-killers is regulated by the season of the year and the requirements as to kind and quantity in each locality The stocking of these goods by the chemist appeals to the public. Thus, on a recent occasion, when horticultural lectures were being delivered on spraying, and certain poisonous insecticides were recommended by the lecturer, the chemist-seedsmen were applied to in the very first instance for the goods. The aim of this article is, however, to point out what a tidy, clean, and profitable adjunct the

Flower and Garden Seed Trade

is in itself. Many articles have been written within recent years with the express purpose of suggesting profitable side-lines, which often have only a remote connection with pharmacy, while from both the botanical and medicinal side the seed-trade is closely identified with it. An ironmonger has no direct connection with sheep-dips,

which are not a natural branch of his business. Still less has the hardware-trade any connection with seeds, though they are frequently sold by ironmongers. Then why should it be looked upon as an odd thing for a chemist to sell seeds, when a big part of his calling has to do with seeds and fruits of the soil generally? The experience of the writer is that such trade can be cultivated without at all interfering with the dignity or professional side of pharmacy. In support of this argument think of the universal demand for flower and garden seeds all over the country: in many instances these are being sent direct from large centres to districts where they might very well be

supplied by the local chemist. Is experience not necessary? it may be asked. Well, the more experience in this, as in everything else, the better; but just as it is not necessary to be a practical photographer before selling photographic goods, so here much can be done in a very short time by application, watchfulness, and attention. I was launched into business on my own account where the seed-trade was carried on with that of a chemist, and while at the outset I would willingly have thrown the former over, this point was settled through the discovery that the seed department was the better of the two; and so profitable and comfortable to work did I find it that when, in a few years, the relative value of the two departments was reversed I had no inclination to discontinue the seed-trade. No one could begin with less knowledge. My first experience behind the counter on taking possession was a request for a hyacinth bulb. I was not even sure of its identity, but a happy thought suggested that the customer should pick one for herself. As has been indicated, there are

Two Departments to be Studied,

which run alongside one another—viz., kitchen-garden seeds and seeds for the flower-garden. If one begins by studying a seedsman's catalogue, it looks as formidable almost as a modern wholesale drug-list, but stripped of much that is superfluous-or, in other words, of a certain class of fancy seeds-which can only be done through growers or large dealers—the trade is comparatively simple. A certain range of vegetable-seeds is required for nearly every kitchengarden, and it only varies in quantity. There are peas, beans, beetroot, broccoli, Brussels sprouts, cabbage, cauliflower, cress, cucumber, carrot, celery, German greens, leek, radish, lettuce, melon, mustard, onion, parsley, parsnip, savoy, spinach, turnip, etc. Under some of these heads there are, again, innumerable varicties. Of peas, for example, which come first in order in nearly all lists, there are between twenty and thirty named varieties in some lists. But the trouble is not so formidable as it seems. Nearly every purchaser wants, it may be, an early pea, a late-pea, and probably a main-crop to come in between. We have here a natural selection which can very well be followed when purchasing stocks, and in eight cases out of ten purchasers will take what you recommend. There are further subdivisions, which are also easily learned—viz., wrinkled peas and round peas, as well as dwarf peas and tall peas. The former tell their own tale by appearance; the latter require careful labelling, as it is extremely awkward if a customer wishes a dwarf pea, which will not grow beyond 9 in. or a foot, and so avoid the necessity of staking, and you inadvertently give a pea which ultimately grows to 6 ft. This is one of the unpardonable sins in the seedtrade. The range is much simpler in the case of nearly all the other vegetables, and could well be limited to two or three varieties of each kind, exceptions perhaps being cabbage, onion, and turnip. In the seed-trade there is. or should be, only one quality, and that is the best. The fresher seeds of all kinds are, the better. There is no inducement to buy in quantity at a cheaper rate to hold over. This is sure to end in disappointment and loss. Some seeds keep longer and better than others, but the aim here should be to buy for one season's requirements only. In some instances it is necessary for the wholesaler to protect himself against an utter failure of crop, as might happen in the case, say, of leek-seed during a wet or sunless summer. This is one of the few seeds preferred of Scotch growth, for which Musselburgh and East Lothian have become famous. English leek, being a softer leek, cannot stand the severe frost of many Scotch winters. Here the skill of

the chemist and practical man is brought into play. How can you guarantee that seed bought under these conditions, or kept in stock over a season, will germinate? The price of this particular seed is an element in the consideration, ranging as it does from 8s. to 20s. per lb., according to season, so that one cannot afford to throw it out unless hopelessly bad. My spring seed-catalogue has frequently a foot-note: "Germinating qualities tested before being sent out." There is scope for experimenting in endless directions. And this was not a catch-phrase. It is not actually necessary to go through the process. Dealing with a wholesale seed-house of good repute is quite sufficient guarantee, while many of the seeds, such as peas, can be judged by their appearance. Still, in connection with a few of these, such as leek-seed in the vegetable department, and stocks and asters in the flower department, purchasers are very particular, and the injunction, "Be sure and give me them fresh," is common. The best reply is to show a pot or box with the plants started. This at once silences all cavilling. A pot of seedlings put into the win-dow duly labelled is a standing advertisement for the season, besides being a never-failing source of interest. This can be done very simply by getting a pot of soil, sowing a given number of seeds, and counting the number that germinate, when you can at once tell the percentage. Or, better still, sow pretty thickly and judge by general appearance. Gentle heat stimulates the germination, and while anyone can provide this for himself with the aid of a frame, or even a warm corner in the house, there are always plenty of amateur florists ready to lend a helping hand. Regarding

Parcelling and Retailing

of vegetable-seeds many houses will supply them ready packeted to turn over without trouble—that is, peas, beans, etc., in half-pint and one-pint parcels, others in ½-oz., ½-oz., and 1-oz. packets, as the case may be—at a profit ranging from 33½ to 50 per cent., and no cutting. A much better profit than that even can be had by the retailer parcelling for himself. To a chemist this is no trouble, and as in adopting the latter method one uses his own addressed seed-bage, packets, etc., it has more the appearance of a knowledge of the business, and avoids the necessity of becoming tied to one firm. The former method might be tried as an experiment to begin with, but where the turn-over runs into bushels and pounds it would be absurd.

Flower=seeds.

Although there is much greater variety in flower-seeds as regards numbers, the packet system might very well be adopted here, especially at the outset. Illustrated flower-envelopes have become general, and nearly every variety of garden annuals can be had in penny packets, and a very fair display made for a few shillings with very little risk. These cost about 6s. per gross. A number of these are more popular than others, such as mignonette, sweet pea, candytuft, Virginian stock, nasturtium, and so on, and, as in the case of vegetable-seeds, filling these packets from bulk has several advantages. You can buy much cheaper in bulk, and so not only secure a better profit, but you can give your customers a better-filled packet. Again, you are more likely to buy fresh stocks in bulk, and can give your customers an assurance to that effect. Flower-seeds, being so small and tender, are never safe to venture a second year with, unless their germinating powers have been tested. I invariably clear out the flower-seed drawers from year to year on the arrival of fresh stock.

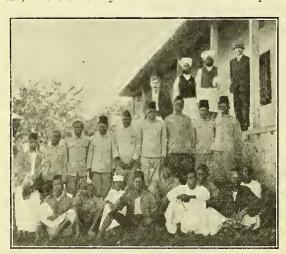
Seeds make a very effective window-display, and a nicely arranged window, with names and illustrations, always attracts attention. While the season is short, it differs from medicine for the time being in the fact that every passer-by is a probable purchaser. A spring handbill with a few of the better-known varieties in each class named, and scattered broadcast, is almost a sine quâ non, and pays.

Spanish Bleach.--The exports of bleaching-powder from Tarragona during 1907 amounted to 570 tons, against 1,098 tons in 1906, or 528 tons less.

THE exports of carnauba-wax from Bahia during 1907 amounted to 64 metric tons, valued at 4,072*l*., being an increase of 17 tons as compared with 1906.

East African Dispenserships.

MR. WINSTON CHURCHILL in his recently published book on his travels in Eastern Africa is very enthusiastic about the natural glories of the country. "Concentrate upon Uganda" is how he sums up the advantages of this part of the British Possessions. We have had ample confirmation of this during an interview with Mr. Francis K. Rowe, who has filled one of the East African dispenserships for the last three years. Some particulars of these positions were given in The Chemist AND DRUGGIST SUPPLEMENT, December 7, 1907. Mr. Rowe was one of five dispensers that went out in 1905. These dispensers are obtained by the Crown agents and selected by the Apothecaries' Hall. The part played by the Hall is a relic of the olden time, when the Apothecaries' Society, through their Water Lane shop, had the monopoly of the supply of drugs to the Government Forces. Even now the Hall enjoys considerable advantages over other commercial corporations in obtaining drug contracts. The drugs for the East African medical service, for instance, are indented through the Apothecaries' Society. Mr. Rowe had to go to Mombasa from England, which takes about a month, and then a journey of a 1,000 miles, two days by steamer and two days in the train, brought him to Entebbe, where part of his time was spent. There is a good hospital at Entebbe, with seven beds, which is a proportionally large number when one considers that the total white population is only about sixty persons. The duties of the dispenser are very varied, and include bacteriological work, especially that involved in examining the blood of those afflicted with sleeping-sickness; and occasionally medical work. Each dispenser



THE STAFF OF ENTEBBE HOSPITAL.

has a three-roomed bungalow, and has to keep the usual staff of "boys." Mr. Rowe had a good deal to tell us about the occasional outings he had in search of big game, which is fairly plentiful some miles out. During his stay Mr. Rowe had the fortune to kill two elephants, one of which was a very fine specimen, the tusks weighing 110 lb. each. The amount realised for the ivory is one of those slices of luck which big-game hunters get, and is one of the compensations to the dispenser engaged in this far off spot. The hippopotamus which is shown in the second illustration was another victim of Mr. Rowe's gun. The beast weighs something like three tons. The size can be judged by comparing that of the ten-year-old youngster who is standing on the body. The position of dispenser may seem to be particularly attractive, and it is certainly good for an experience. The "fly in the ointment" is, as pointed out in the C. & D., the inferior position occupied by the dispenser in the medical service. It almost seems to have been deliberately planned to put the qualified pharmacist on the very lowest plane of the

service, and this is naturally resented by educated chemists. Mr. Rowe does not find the inducements sufficient to entice him back to East Africa, and he is settling down in business at Bristol. Any chemist who should



A DEAD HIPPOPOTAMUS.

think of taking one of these positions will be well to read up the articles that have appeared in the C. & D. It is possible that the authorities are unaware of the disadvantages under which the dispensers labour, and would be willing to grant more reasonable conditions if these were suggested to them.

Pharmacy in Ebor.

HISTORIC YORK can unfold many a tale of bygone events, but none more interesting than its history of pharmacy. Any chemist visiting Ycrk will find a hearty welcome and much intellectual entertainment if he call

upon Mr. S. Scruton, senior partner of Raimes & Co., the historic drughouse of York. Mr. Scruton is a freeman of the city, and is well versed in its history. The prosaic business of wholesale drug-dealing is carried on in Micklegate House, a fine old mansion, built by one of the Bourchier family, whose crest may still be seen at the rear of the building.

The date of the building (illustrated here) is about 1750, and in the latter half of the eighteenth century it was the town house of the Repurchiers of Bening-



the town house of the Bourchiers of Bening-brough Hall, and one of the centres of fashionable life in the city. Mr. Scruton has preserved with appreciative care some of the panelling and fine window and door carvings which adorned the house when it was in its glory, and the visitor will find many beautiful specimens of carved woodwork and designs in wrought iron in and around the offices of Messrs. Raimes & Co. Much of the finer work, however, has been sold, notably a handsome carved mantelpiece, which realised 851.

In 1899 the owner of another very old-established pharmacy—that of Slinger & Son, High Ousegate—died, and Messrs. Raimes & Co. took over the stock and trade. The

business of Slinger & Son was apparently founded by George Ewbank prior to 1787, as on that date the business was carried on by Wright & Prest. The evolution is traced as follows:

George Ewbank.
Wright & Prest.
John Prest & Co.
Leadbitter & Hollon.
Hollon & Slinger. Slinger & Barnett. Slinger & Son.

In the old stock Mr. Scruton discovered many interesting documents, catalogues, and books which had belonged to the business. Among the most interesting perhaps is a catalogue or price-list, which bears the year 1787. This is a small 32mo booklet containing the names of drugs, chemicals, and sundries, the prices of which were written in as occasion

required.
This catalogue was in the possession of Mr. Charles Robinson, of Kirby & Robinson, predecessors of Raimes & Co. in the premises they formerly occupied at No. 13 Micklegate, and it was presented by Mr. Robinson to Mr. John Leadbitter in 1834. Mr. Robinson himself was a York celebrity. He was apparently a man of dwarfish stature and of good business capacity; but his drug-dealing was dwarfed in the public eye by the prominent part he took in the sport of the day. Newspaper records exist which tell of the exploits of this "puny drug-vendor" in the realms of sport, and an

account of his career would make a stirring tale.

To return to the Slinger history, Mr. Scruton has now in his possession several quaint old books which belonged to one or other of the successive owners of the business. One

of these is entitled:

THE ELABORATORY LAID OPEN; or the SECRETS of Modern Chemistry and PHARMACY REVEALED. Printed by J. Nourse, at the Lamb, opposite Katherine Street in the Strand. MDCCLVIII.

Another book which engaged the attention of Mr. Thomas Tyrer during his Duty-free Alcohol Crusade, and which the York Excise officers find extremely interesting, is a catalogue of "Duties, Drawbacks, and Bounties of the Customs and Excise as settled by various Acts of Parliament passed prior to 2nd July, 1819."

There is also a book, evidently intended for the use of commercial travellers, entitled "The Druggist's New Pocket Guide, containing a list of the duties, drawbacks,

etc., on drugs, chemicals, and perfumery.'

A large bell-metal mortar in a fine state of preservation was discovered among the Slinger relics, as well as a wooden carved head of Glauber. These have places of honour in Mr. Scruton's private office, along with many other relics of ancient days which will appeal strongly to the pharmaccutical antiquary.

At the Counter.

RATHER PUZZLING.—" Please for a puzzle," said the little girl. "Not just now," answered the chemist, wearily; my assistants don't get away till nine o'clock.

The following puzzle was handed to a Gloucestershire chemist, who can completely solve it: "One pennyworth of spirits of turpintine, one pennyworth of salvalating, sawrncrbdl, one pennyworth of harts of homs drops, one pennyworth the oil of simper. in a bottle together. does 10 to 15 dropes in a wine glass of cold water at bedtime 3 nights and rest 3." The above is as near as possible to the original.

The unusual request subjoined was recently received by a chemist and druggist subscriber in India (61/30):

DEAR SIR.—Will you kindly let me know the just value of poison of red, black, yellow, blue, and of white colours? What arrangements we are to made in order to get it, whether to get a certificate—of a doctor or of a physician.
Sincerely,

How to Advertise Proprietary Medicines.

By One who has done it.

A DVERTISING is the searchlight we throw on our wares with the object of attracting the public attention; therefore the first thing to be sure of is that the goods can bear critical inspection, that they can accomplish all we claim, otherwise we, the sellers, do ourselves more harm

than benefit by advertising them.

Proprietary-medicine advertising must be sincere, interesting, educative and authoritative in order to be convincing and so sell the goods. Sincerity on the part of the advertiser is important. There is an infectious power in belief. It is difficult to persuade an astute and sometimes suspicious public of the truth of a statement which we ourselves doubt. It must be conceded that the genuine coin has a ring that its counterfeit lacks. True, there should be sincerity and its counterfeit lacks. earnestness in all we do, but these qualities are specially requisite in proprietary-medicine advertising. How can a man recommend a suffering fellow-being a remedy which he knows to be valueless?

Another essential in this branch of advertising is a knowledge, not alone of human nature in general, but of a particular class-namely, people who are ill, or who think they are. The successful advertiser of proprietary medicines adopts the quiet, authoritative, sick-room manner of addressing an invalid. His tone is solicitous, sympathetic, kindbut never flippant. "Familiarity breeds contempt." folks, no matter how trivial their ailments, always take themselves seriously, and they like others to do so as well. A person who is not in perfect health is apt to be supersensitive and requires to be dealt with tactfully.

The expert advertiser of proprietary medicines need not be a dootor, but he must be well informed regarding the symptoms of the diseases his remedies relieve. He must also be able to describe them in clear, terse, vigorous English, omitting as much as possible all technical and medical terms. These tend to confuse the ordinary mind.

Proprietary-medicine advertising must be educative. It is easy to make it so. The ground is prepared. The advertiser has but to supply the seeds. Most people while in health are content to jog on serenely ignorant of all that concerns that most wonderful machine, the human body; but when illness comes, and something in their own mechanism goes wrong, then they are eager to learn all they can about it. This is the shrewd advertiser's chance. He satisfies this curiosity, giving the reader "the reason why" of his suffering and "the reason why" the suggested remedy will benefit him. When this is done tactfully, logically it needs no prophet to tell the result.

It will add to the influence of the advertisement if some celebrity, or even some person of local importance, will testify to the benefit derived from the medicine advertised. Testimonials and photographs from unknown people consume valuable space without adding beauty or force to the advertisement. They are unconvincing, cheap, and in all

cases useless.

The lines of advertising herein suggested can be advantageously followed in preparing all kinds of advertising copy for proprietary medicines. Experience teaches that "write-ups" situated as near as possible to the news columns are useful in gaining publicity for proprietary medicines. These afford plenty of space for necessary explanations to a public who no longer take proprietary remedies "on faith." When they want a "faith-cure" they go elsewhere.

It is well to reinforce newspaper and magazine advertising with booklets. These afford the advertiser ample space to interest, educate, and to convince the public of the worth of the remedy. Circulars are not a good means of advertising proprietary medicines. They have, unfortunately, been associated in the public mind with so many fake remedies.

In this as in every other kind of advertising the same rule holds good: printers' ink accomplishes much, but it is not magic. To bring results it must be applied with a trained hand guided by a mind enriched by life's experience, a mind original in its outlook and facile in its methods of expression .- F. A. DEGEN.

How Gas is Made.

By A. J. Hunt.

ALTHOUGH the production of coal-gas does not form part of the ordinary course of study for chemists engaged in pharmacy, the following particulars of the processes involved, and photographs taken by the courtesy of



FIG. 1 .- UNLOADING COAL.

Mr. J. Tysoe, of the South Metropolitan Gas Co.'s works at East Greenwich, may be of interest to them, especially as they are not unfamiliar to them.

The company's chemical processes are conducted upon so large a scale as to impress one accustomed to read of them

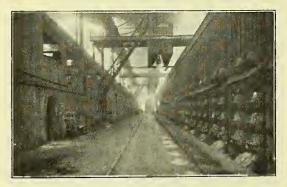


Fig. 2.—A Retort-house (Interior).

only in text-books. The retort-houses, with long lines of retorts in full "go," producing gas, night and day with scarcely any break, convey to one's mind the idea of organised labour carefully utilised for economical working and production. As is well known, household gas is obtained by the destructive distillation of coal, and as obtained from the retorts has the following chemical composition:

Hydrogen 45 per cent. by volume
Methane ... 32 per cent. by volume
Carbon monoxide ... 35 per cent. by volume
Carbon dioxide ... 1.5 per cent. by volume
Nitrogen ... 3 per cent. by volume
Sulphuretted hydrogen ... 1.5 per cent. by volume
Ammonia ... 0.75 per cent. by volume

Ammonia 0.75 per cent. by volume Cyanogen, naphthalene, and carbon bisulphide, a small amount of each.

The coal is first unloaded from vessels lying alongside the jetty by means of steam-cranes and conveyed by locomotives to the retort-houses (fig. 1), where it is passed through crushers and carried by chains of buckets into hoppers ready for use. Fig. 2 shows the interior of a retort-house, with the lines of retorts in sets, and hoppers containing coal ready for the mechanical stoker—which is seen in the distance working forward towards the near end of the retorts, emptying and refilling them in its progress. Retorts are shaped tubes made of fireclay, 20 ft. long, and heated to a temperature between 1,500° and 2,000° F. Each one receives about 6 cwt. of coal, and every six hours the coke formed is withdrawn and more coal introduced.

The mechanical stoker which does this is manipulated by two men as it works along a set of rails in front of the retorts. The foremost man "draws" the retort and the red-hot coke falls down through the openings shown under the retorts into the coke-house below, where it is cooled by jets of water, and is afterwards either conveyed in trucks to



FIG. 3.—EXHAUST-HOUSE.

the riverside, where it is shot into barges called "monkey-boats," or stored in immense heaps for future disposal. About one-fifth of the coke produced is used for the furnaces, the remainder being sold.

After the coke has been withdrawn from the retort the second stoker introduces a long scoop filled with coal from



Fig. 4.—Condensers.

the machine; the door of the retort is then closed, and the process repeated every six hours up and down the long line of retorts with regularity and precision. Work in the "houses" is very laborious, and, but for the precautions



Fig. 5.—Scrubbers.

taken and the space allowed for ventilation, would be almost unbearable on account of the heat and smoke.

One ton of coal produces 11,000 cubic feet of gas, 12 cwt. of coke, 9 gals. of tar, and 30 to 40 gals. of water. The gases produced pass into the pipes called "ascension-pipes"—seen in fig. 2—then into pipes which dip into water

in a large shallow main called the hydraulic main. The gas is now forced to travel by its own pressure, to which is added the pull or exhaust produced by the exhaust or suction pumps (fig. 3.) These draw the gas through the coolers or condensers outside the retort-houses (fig. 4), where the volume of gas is greatly reduced, water or tark



Fig. 6.—Purifiers.

vapour being deposited, and leaving the gas free from suspended matter, so that it is better adapted for further treatment.

After passing the exhaust-pumps the gas is forced forward under considerable resisting influences. It first encounters

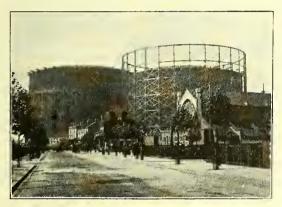


FIG. 7.—GAS-HOLDERS.

the washers—rectangular boxes in which the gas is split up into little jets and forced through water. This washing cleans the gas of ammonia, and the ammoniacal liquor also acting upon the weak acids (H₂S and CO₂) these impurities are thereby lessened. Thence the gas passes up through

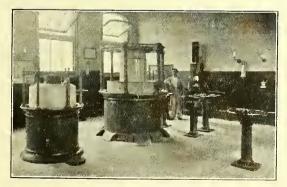


FIG. 8.—GAS-GOVERNORS.

the "scrubbers" (fig. 5), which continue the washing process. These are water-towers, and the gas travels up through them, coming into contact with a large surface of

thin boarding placed inside in layers at various angles. Water passes down the towers, and the gas issuing from the scrubbers should be free from ammonia. From the liquor produced in the process of washing all the ammonia compounds of commerce are obtained.

After the scrubbers the gas passes through the purifiers (fig. 6), which are boxes filled with ferric oxide in the form of natural bog-ore found in Ireland and in Holland. This removes all H₂S, ferric sulphide being formed, 80 per cent. of the oxide being converted into sulphide. This is afterwards placed in kilns, and the sulphur obtained as SO₂ for the manufacture of sulphuric acid, and the residue of iron oxide, containing sulphide as an impurity, is mixed with fresh ore and used four or five times over, until the content of free sulphur reaches 40 or 50 per cent.

The gas is now ready for use, and is next measured and carefully tested to comply with Board of Trade requirements and then stored in the gas-holders (fig. 7). Those seen in the photograph are the two largest holders in existence, having a capacity of 8,250,000 and 12,000,000 cubic feet respectively. Heating and lighting power are measured, and, together with sulphur and naphthalene contents, are recorded with any other constituents determined. Finally, the gas reaches the consumers through controlling apparatus called governors (fig. 8). Should the supply be short and pressure fail, centrifugal fans are brought into play, and the pressure is augmented by this means.

The Lighting of Chemists' Shops.

THE problem involved in the lighting of any shop is threefold. There is the lighting of the interior, the lighting of the window, and a certain amount of light outside to act as an advertisement. In every shop the problems involved in lighting the inside of the shop and that of the windows are quite distinct, though they have several points in common. For both, according to the writer's experience, the best results are obtained by light from above. Lighting in any case is always best when the source of light is carefully hidden, and this is best effected by placing the lights above the observer's eyes, and so that the glare from them cannot meet his eyes. A good method of lighting for a window is to have a horizontal semi-transparent glass-blind in the upper part of the window, and some powerful lights above it, the whole window is then uniformly illuminated, and it is only a question of the amount of light above the screen to ensure that every article in the window shall be fully visible. Where this arrangement cannot be conveniently carried out, lamps whose light is shaded from the observer should be employed as far as possible. The "Linolite" (Line of Light) electric lamps answer this purpose very well.

For the inside of the shop, fix the lamps at as great a height as possible, and the best results are produced by a number of smaller lights distributed in different parts of the shop, so arranged that the light-rays from one lamp illuminate shadows of objects east by another lamp. In any case, a chemist is wise not to be niggardly in either his inside or window illumination. Window illumination, if properly carried out, often attracts customers, who may be strolling along the street after lighting-up time, and whose attention is caught by something attractive in the window. If the whole of the window is fully illuminated, so that any notices, descriptions of objects sold, and so on, can be easily read, the effect upon sales should be good. The same applies to inside illumination. Customers often have to wait, and while waiting even the least curious of us look round the shop. If the shop is badly illuminated, and we cannot easily read the legends upon the different packages, we probably give it up after a short trial. If, however, the shop is well illuminated, and we are easily able to read the descriptions of the different panaceas for the ills of human kind, we think we will try this or that, and purchases result.

Gas versus Electricity.

And now the question arises, Which is best for the chemist, gas or electricity? A keen struggle has been going on between the gas and electricity makers for some time past now, and though gas appeared to be winning a short while since, the recent developments in electric lamps have given

electricity a good many points in the struggle. In 1882, when the first electrical exhibition was held, gas was in very bad odour. It was very dear, the light given was very poor, and the results generally were not satisfactory. Since then, however, gas has made very great strides. The advent of the Welsbach mantle and developments of the inverted mantle have enabled gas engineers to compete very closely with electricity in all that electricity claims its own special advantages. One of the features rightly claimed by electrical engineers was the great brilliancy produced by arc lamps. At the present time even a greater brilliancy is produced by the "Flame" arc lamps, those which give the golden-coloured rays, to be seen nearly everywhere; but for practical purposes gas engineers are able to produce quite as brilliant an illumination with a group of Welsbach burners, and at considerably less cost. Again, the Welsbach mantle, though when first introduced it gave considerable trouble in renewals of mantles and chimneys, and the expense of mantles and chimneys was so great as to neutralise the saving in gas, this phase has also largely passed away. The mantles of all kinds, inverted and upright, have been considerably reduced in price, very much strengthened in structure, made very much more lasting, and certain forms of them are made to stand high pressures, so that very brilliant effects are produced. If a brilliant light is all that is required, whether inside or out, the chemist may have it by fixing a certain number, dependent upon the size of his shop, etc., of groups of inverted Welsbach mantles well above the eyes of the observers. The groups of mantles may be shaded by ground-glass if desired, very much as some arc lamps are, the effect being very pleasing indeed. On the other hand some forms of "Flame" arc lamp have a very important property that may be useful to the chemist. Colours seen by those in which the carbons are impregnated with a sodium salt come out true to sunlight. So far as the writer's experience goes, and he has tested every form of

artificial light, no other light gives correct sunlight colours.

For smaller lamps, to illuminate the counter, to place behind the coloured carboys, or to illuminate the window, if the arrangement of lights above a screen cannot be employed, probably the new metallic-filament electric incandescent lamps will be found the best. The running cost with them is still not as low as with gas in the great majority of towns, but it is very much less than with the old carbon-filament lamps, and the light given is a very much nicer light, inasmuch as it is white and not yellow, as the carbon-filament lamps are. The lamp bulbs do not blacken as easily as the latter do, and there is far less tendency to flicker, or for the light to change, with the changes in pressure that are so common in town electricity services. They have one disadvantage, at present they are only made for low pressures, 25 to 130 volts, except in the case of high candle-power lamps, but it is quite easy to arrange a transformer, where the service is by alternating currents, to reduce the pressure from the 200 volts upwards that is now usual in town services down to any pressure that may be convenient. The 25-volt lamps, of which large numbers are being used, is a very convenient lamp, as it is much stronger than the higher voltage lamps, and the light given is quite as good. The cost of the lamp itself is comparatively high, very much higher than the cost of a gas mantle, or of the carbon-filament lamp, while its life at present is not as high as either of those, so that lamp renewals play an important part in the total cost. In the writer's view, however, and he has seen the advent and progress of every form of electric lamp that has been put upon the market, this is only temporary. When the carbon-filament lamp first came out it could only be made for 50 volts, and the higher candle-power lamps at that pressure were very poor indeed. Gradually the pressures were increased till the present result has been obtained. The writer's view is that the metallic-filament lamp will follow the same course, and already there are signs of this. The pressure will be gradually increased as the manufacture is developed, and lamps of any candle power, and of any pressure, will be soon obtainable.

The electric incandescent lamp has two important advantages over the gas-mantle. It does not vitiate the air to the smallest extent. It does not consume oxygen, and it does not deliver either unconsumed gas or products of combustion into the atmosphere. It does not blacken ceilings. It will be a question for the individual chemist to decide for

himself whether these are sufficient advantages to weigh against the undoubted increase over the cost of gas when consumed in a mantle.

Charging for Electricity.

It may be useful to chemists to explain how electricity is charged for. They will have had bills demanding payment for so many units, and in some cases, in some towns, the bills will have demanded payment for a certain number of units at a high rate—say 6d. per unit—and for the remainder at a low rate, say 1d. per unit. The unit is intended to correspond to the thousand cubic feet of gas, with which we are all familiar. It is 1,000 watts for one hour. The watt is the unit of electricity, the old carbon-filament lamp of 16 c.p. requiring 60 watts to furnish its light, so that in one hour it consumed 60 watt hours, and a unit furnished one of the old 16 c.p. lamps for a little over 16 hours. With the new metallic-filament lamps the consumption of current for the same amount of light is from \(\frac{1}{4} \) to \(\frac{1}{3} \) that of the old carbon-filament lamps, but the full economy is not always obtained, because the only lamps available in some cases, on direct current circuits, for instance, are of higher candle-power than those that are displaced. The number of units is registered by a meter, the one most commonly used looking very like a gas-meter, in which a little electric motor, driven by a small portion of the current that is passing to the lamps, drives a counting mechanism. The counting mechanism shows on a series of little dials units, hundreds, etc., just as on a gas-meter. In another form of electricitymeter, of which the writer believes not very many are used, which is very much like a thermometer. It stands vertically, and the tube is full, when it starts, of water in which a certain salt has been dissolved. The current passing splits up a certain quantity of the solution, in exact proportion to its own strength, the gases formed by its decomposition passing away out of the instrument, the level of the liquid in the tube falling, and this being the register of the number of units consumed.

There is another apparatus of which a great deal has been heard, but which the writer believes is gradually being less used, known as the demand-indicator. Its object is to distinguish, so far as charging for current is concerned, between those consumers who take current during the busy hours, from four to seven in winter, when everyone requires light, and those who take it when very little is required. Electricity differs from gas in the fact that it has to be generated at the instant the consumer requires it, and, therefore, machinery has to be provided in accordance with the number of lamps that may be turned on at any moment. As light is only required for a few hours in the evening in business-houses, shops, etc., except on Saturdays, and not at all for a large portion of the summer, the bulk of the machinery is idle for a large portion of the year, and the demand-indicator is intended to make those who require the light during the busy hours pay at a higher rate for it. The demand-indicator itself is an apparatus, various in form, which shows the largest current the consumer has required during the quarter, and he is charged at the higher rate for one or two hours of use for each day of the quarter at the rate of consumption shown by the demand-indicator, the remainder of his consumption being charged at the lower rate. Various figures for charges rule, a somewhat favourite one being 6d. for the higher rate and 1d. for the lower rate. The idea of the engineer who introduced the arrangement was that the returns produced by the higher rate should pay all the expenses of running the station, and the returns produced by the lower rate should go towards dividends.

There are other methods of accomplishing the same object which are employed in other cases. Thus, what are called two-rate meters are employed, one registering during the busy hours and the other during the remainder of the twenty-four hours, the units registered during the busy hours being charged at the higher rate and the remainder at the lower rate. There are various forms of two-rate meters. The two-rate meter is much fairer than the demand-indicator, inasmuch as it actually charges for current taken during the busy hours, while the demand-indicator may oblige a customer to pay at the higher rate for a large consumption owing to an accidental use of a large quantity of light, say in the middle of the night.

Optical Observations.

By a Chemist-Optician.

Avoid Reflections.

With further reference to the trial-frame, it would be a decided advantage to have the back—that is, the side nearer to the face, blackened. This is especially useful where a reversed chart is used with a mirror, and the illumination of the type is behind the customer's head, which tends to give reflections from the back of the trial-frame. These, I know from experience, are very annoying, particularly when one eye is covered with the blank disc, and is supposed to be inactive. Another case is when using the retinoscope, when reflections are obtained on the cornea which are troublesome to avoid. I am aware that there are adjustable trial-frames on the market which are black, but these are blackened all over, with white figures to denote the angles. To my mind these are not so clear to read or so nice in appearance as the ordinary pattern with white celluloid scales and black letters. A dead-black finish would be a distinct improvement.

Removing Grit from the Eye.

All of us at one time or another have customers in the pharmacy complaining of pieces of grit or dust in the eye, and most of us have come across cases in which the eye is so sensitive or the individual so nervous that he will hardly allow the eye to be touched, much less permit the offending particle to be extracted. This is to a certain extent excusable, as anything touching the surface of the cornea gives rise to exquisite pain. I recently, however, came across a case which appeared to me rather uncommon, though perhaps other chemists may have had a similar experience. A gentleman came in with a small piece of coal-dust lodged practically in the centre of the cornea, and on my telling him the position of it, he removed it himself by means of the corner of his handkerchief, keeping his eye wide open and fixed while looking into a mirror. Whether he was insensitive to the pain or whether it was simply strong exercise of will power I do not know, but it is an experiment which I should not like to try on myself.

It is a good plan with a troublesome customer to ask him to bathe the eye first, by means of an eye-bath, with a little boric or similar lotion, which helps to relieve the irritation and also begets confidence. I have found that one can then open the eye to remove the foreign matter with much greater ease and submission on the part of the customer after this procedure.

The Powers of Observation.

Observations of a customer's general symptoms and appearance should be cultivated more than it is, as these details frequently give the optician a hint of what to expect when commencing sight-testing. Thus the tendency of people suffering from hyperopia is to have a flat type of features; the eyes are frequently small and beady, and the pupils very small, sometimes like pinheads. There are also likely to be complaints of headache, and eyes watering and aching when reading, especially by artificial light, and it is very often these symptoms which lead to examination. On the other hand, the eyes of myopic subjects are usually large and prominent, and the pupils well dilated. The eyes are frequently screwed up to protect them as much as possible from the light, and this often leads to wrinkles in the forehead, due to it being done constantly. In myopia the eyes smart and ache rather than the head aching, and the customer is usually young, say from fourteen to twentytwo years of age. In astigmatic cases there is sometimes irregularity of features, and the other details follow the kind under which it would fall, either hyperopic or myopic. These observations are only general, and it would be easy to pick out a particular case which totally upsets the rule; but in the main the above principles hold good. By practice one becomes expert at judging the appearance, and every link helps to make up the chain of evidence.

The Testing-room.

Following my remarks on the care of the window, I should like to say a little about the arrangement and care of the

testing-room. After having expended considerable thought and trouble to persuade the customer to come in, it is very bad policy to spoil the effect produced by testing his sight in a room which is principally filled with stock of a varied nature and is apparently only a makeshift. There is a good plan of arrangement given in "The Chemist-Optician," which can hardly be improved upon where there is the space and electric light available; but there are many chemists whose quarters are necessarily cramped, and it is to these that my remarks apply. Reversed types used with a mirror is the usual method of overcoming shortness of distance, and charts can also be obtained adjusted to 10 ft. If it is absolutely necessary to use the room for stock as well, then have it arranged so as to be inconspicuous, either in cupboards or stacked in shelves covered with a dark curtain. Nothing tends to divert the customer's attention more than to have a variety of objects about to which his gaze naturally wanders, as they are mostly novel or unfamiliar to him. The trial-case, testtypes, and lighting should be so arranged as to necessitate as little walking about the room as possible, and also so that the customer retains the same seat the whole time. A swinging wall-bracket is preferable to a table for the trial-case, as it is easier to pull forward or push back as required. Electric light is, of course, the best illuminant for test-types, because of the ease with which it is controlled; but I do not like it so well for use with the retinoscope as an Argand gas-burner with a skiascopic chimney, which seems to give a more evenly illuminated patch of light.

"Cut-throats of Commerce."

I quote the following extract from a Sunday paper in a paragraph with the above heading:

Firms that were at one time renowned for one thing are renowned now for nothing. They have become general dealers. The chemist is selling motor-car accessories, cameras, and canaries. I do not fancy chemists who want to provide me with bicycles and billiard-tables. I mistrust the quality of these general dealers' drugs and I take my prescriptions to a man who is a chemist and druggist by profession and right, and not a carpetist and ruggist, and juggist and a muggist, and all sorts of other things besides. Apart from the principle of the thing, is it not a little alarming to see your prescription being made up by a brisk and bustling young shopman who has just been rolling up stair carpets or pumping up the collapsed tyre of the latest model from Coventry?

With which sentiments I heartily agree; but I was sorry that the writer did not say where he bought his spectacles if he requires them. There are certain side-lines which legitimately belong to the trades with which they are generally associated, and the chemist is naturally adapted by his knowledge and training to be the best and most fitted to supply the public with optical, photographic, or surgical sundries. The great point is that the chemist-optician who does his business properly is not merely one who hands glasses over the counter and nothing more; but one in whom his customers have confidence, follow his advice, wear with comfort and benefit the correction with which he fits them, and return again when they require a new pair.

The Abuse of the Ophthalmometer.

At one of the large exhibitions recently I saw an instance of how the public are often imposed upon by quack sight-testers. I stopped to look at a sight-testing stall just as a gentleman was being persuaded to take a seat in front of an ophthalmometer. The instrument was of a very old pattern, and was of the type in which the telescope goes through the centre of a large black hemispherical shield on which are placed the mires; the operator, smoking a cigar, then elaborately sighted the instrument, and rapidly revolved the telescope and disc through several complete revolutions. After this highly scientific proceeding he informed his customer that his eyes were in a very bad way, and it was absolutely essential that he should wear glaeses if he wished to preserve his sight. The patient was then taken on to the test-types. Unfortunately, the place was very crowded, and I could not get the opportunity to ask what was the use of the instrument on the table; the answer might have been instructive.

French Codex Formulas.

Selected from the Edition of 1908.

CRAYONS D'IODOFORME. Styli Iodoformii. Powdered iodoform ... 10 grams
Powdered gum ... 50 centigrams
Water and glycerin,
equal parts a sufficiency

Mix the powders and mass with glycerinated water to pilular consistency; roll and divide into pencils.

EAU ALBUMINEUSE. Aqua Albuminosa.

White of four eggs. Distilled water ... 1,000 grams Orange-flower water ... 10 ,,

Thin the albumen with a little of the water, then add the remainder of the liquid, pass through a tammy cloth, and flavour with the orange-flower water.

EAU CHLOROFORMÉE. Aqua Chloroformii.

Chloroform 5 grams
Distilled water ... 1,000 ,,
Dissolve by shaking.

Eau Distillée de Cannelle. Hydrolatum Cinnamomi.

Cinnamon (bruised) ... 1,000 grams
Water 10,000 ,,
Macerate for twelve hours and distil
5,000 grams. After twenty-four hours
filter through wet paper.

EAU DISTILLÉE DE FLEUR D'ORANGER. Hydrolatum Floris Citri Vulgaris.

Freshly gathered orange-flowers ... 1,000 grams Water ... a sufficiency Distil 2,000 grams by steam-heat, removing the separated oil.

EAU DISTILLÉE DE LAURIER-CERISE. Hydrolatum Laurocerasi.

Fresh cherry-laurel leaves, cut and bruised ... 1,000 grams (ater ... 4,000 ,, Water ... 4,000 ,, Distil 1,000 grams; shake the dis-tillate and pass through a damp filter.

Eau Distillée de Menthe Poivrée. Hydrolatum Menthæ Piperitæ.

Fresh peppermint tops, cut 1,000 grams
Water a sufficiency
Distil 1,000 grams. Dried peppermint (200 grams) may also be used.

> EAU DISTILLÉE DE ROSE. Hydrolatum Rosæ.

White - rose petals, freshly gathered ... 1,000 grams Water a sufficiency Distil by steam-heat 1,000 grams.

Eau Distillée de Tilleul. Hydrolatum Tiliæ. Dried lime-flowers ... 1,000 grams Water a sufficiency Distil 5,000 grams by steam-heat.

> EAU DE GOUDRON. Aqua Picis Liquidæ.

Tar 5 grams
Dried sand 15 ,,
Distilled water ... 1,000 ,,

Mix in the above order, and after twenty-four hours (shaking occasionally) filter.

EAU DISTILLÉE DE VALÉRIANE. Hydrolatum Valerianæ. Prepared with the dry root in the same manner as cinnamon-water.

> EAU SALINE PURGATIVE. Eau dite de Hunyadi-Janos.

Magnesium sulphate ... 10 grams Sodium sulphate ... Distilled water ... 10 ,, 650 Dissolve and filter.

> Electuaire Diascordium. Electuarium Diascordium.

Dried leaves of water 50 grams germander Red-rose petals ... 20 Bistort, gentian, and tormentil roots, of each Barberries Ginger and long pepper, of each Cinnamon 20 ,, Siam benzoin, banum, and powdered gum acacia, of each... Ferrous carbonate ... 10 20 Extract of opium ...
Honey of roses ...
Malaga wine ... 100

Evaporate the honey to 500 grams and, while still hot, add the opium extract dissolved in the wine; then add, little by little, all the other ingredients in fine powder; beat the mass into a homogeneous mixture. Keep in a china

ELIXIR DE GARUS. Elixirium Gari.

Macerate for six days, and filter.

Adiantum pedatum ... 20 grams Boiling distilled water 500 ,,

Infuse for half an hour, press, and strain. Add

Orange-flower water ... 200 grams
White sugar ... 1,000 ,,
Dissolve and add to the saffron
macerate; filter.

ELIXIR PARÉGORIQUE. Teinture d'Opium Benzoïque; Teinture d'Opium Camphrée.

Powdered opium and benzoic acid, of each Oil of anise Camphor 5 grams . 5 ,, Camphor Alcohol, 60-per-cent. ... 985 Macerate for eight days, and filter.

EMPLÂTRE BRUN.

Onguent de la Mère Thècle. Olive oil Lard, butter, yellow wax, powdered lith-... 1,000 grams arge, and purified mutton suet, of each 500 100 Pitch

Place the fatty substances in a large copper pan and warm to remove mois-ture; sift in the litharge, stirring continuously with a wooden spatula. Place over the fire, stirring till the mix ture has become deep brown in colour; add the pitch, mix carefully, and with draw from heat. When cool, pour into a jar or paper moulds.

EMPLÂTRE DE CANTHARIDE MITIGÉ. Mouches de Milan.

Burgundy pitch, yellow wax, and cantharides (in No. 37 powder), of each ... 50 grams Venice turpentine ... Oils of lavender and thyme, of each ... 10

Prepared in a similar manner to emp. calefaciens, B.P.

EMPLÂTRE DIACHYLON GOMMÉ. Emplastrum Diachylum Gummatum. Powdered litharge ... Lard and olive oil, of 620 grams each 620 Water 1,250 620 Yellow wax, Burgundy pitch, and Venice turpentine, of each... Gum ammoniacum and 120 galbanum, of each ...

Oil of turpentine ... 60 With the first four ingredients prepare "emplatre simple" (q.v.); then pare "emplâtre simple" (q.v.); then warm on a water-bath the ammoniacum, galbanum, and oil of turpentine with four times their weight of water; stir continuously until the gum-resins stir continuously until the gum-resine are emulsified as completely as possible; strain through cloth. Evaporate this emulsion to the consistency of thick honey, and mix with the plaster previously liquefied by gentle heat. Melt together the wax, pitch, and turpentine, pass through a cloth, and add to the plaster, stirring till the mass is cool. Divide into plaster-rolls.

Emplâtre d'Extrait de Belladone. Emplastrum Belladonæ.

25 grams 25 ,, Belladonna extract ... Elemi Diachylon plaster ... Melt the resin and plaster at a gentle

heat, and incorporate the extract.

EMPLÂTRE D'EXTRAIT DE CIGUË. Emplastrum Conii.

Prepared with extract of hemlock in the same manner as for belladonna extract.

EMPLÂTRE D'EXTRAIT D'OPIUM. Emplastrum Opii. Prepared with extract of opium as

the preceding. EMPLÂTRE MERCURIEL. Emplâtre de Vigo cum Mercurio.

Simple plaster ... 2,000 grams Yellow wax and resin, of each Bdellium, ammonia-cum, olibanum, and myrrh, of each ... Saffron Mercury ,, Mercury Liquid storax Venice turpentine ... 700 Mercury Liquid storax ... ,, ,, 130

Oil of lavender ... 10 ,, Powder the bdellium, olibanum, myrrh, and saffron. Triturate the storax, turpentine, and oil in a warm storax, turpentine, and oil in a warm iron mortar, adding the mercury little by little to "kill" it. Melt the remaining ingredients and incorporate the powdered substances. When cooled to the consistency of a soft ointment, add the mercurial mixture, stirring till homogeneous. When cold, divide into plactor rulls plaster rolls.

EMPLÂTRE DE POIX DE BOURGOGNE. Emplastrum Picis.

Yellow wax ... 1,000 grams Burgundy pitch ... 3,000 .,

Melt by gentle heat and strain through linen.

Practical Formulae.

| Diarrhœa=remedy. | Dia | arrh | œa= | rem | edv. |
|------------------|-----|------|-----|-----|------|
|------------------|-----|------|-----|-----|------|

| Camphor | | | зij. |
|---------------------------------|-----|---------|--------------|
| Ext. hæmatox. | ••• | | žiss. |
| Ol. menth. pip. Tr. krameriæ | | | mxL. |
| | | | 3j. 3ij. |
| Tr. gallæ | | • • • • | 311ss. |
| Tr. opii | | | 311ss. |
| S.V.R | ••• | ••• | žxxxij. |
| Sacchari | ••• | | lb. iss. |
| Aquæ | | | zxlviij. |

Dissolve the camphor and oil of peppermint in the mixed tinctures and alcohol; dissolve the powdered extract and sugar in the water; mix.

Tonic.

| Fl. ext. of prickly ash | $\frac{1}{2}$ OZ. |
|------------------------------|-----------------------|
| Fl. ext. of burdock | $\frac{1}{2}$ Oz. |
| Fl. ext. of stillingia comp. | $\frac{1}{2}$ OZ. |
| Potassium iodide | 1½ dr. |
| Sherry wine to | 1 pint |

Dusting-powder for Poultry.

| Sulphur | | ••• | 4 oz. |
|-------------------|-----|-----|-------|
| Tobacco-dust | | | 6 oz. |
| Oil of cedar | | | √ OZ. |
| Crude naphthalene | | | 3 oz. |
| Insect-powder to | ••• | | 2 lb. |
| Mix | | | |
| WIIA. | | | |

Insect-powder.

| Crude naphthalene | | 1 lb. |
|-------------------|------|-------------------|
| Insect-powder | | 1 lb. |
| Tobacco-dust | | 1 lb. |
| Powdered capsicum | | ½ lb. |
| Oil of pennyroyal | | $\frac{1}{2}$ OZ. |
| Oil of cedar | | $\frac{1}{2}$ oz. |
| Mix. | | _ |

(For Roaches, Ants, etc.)

| Powdered cloves | | | 1 oz. |
|-----------------|----|------|-------|
| Powdered capsic | um | | 2 oz. |
| Powdered borax | | | 4 oz. |
| Insect-powder | | | 8 oz. |
| Mix. | | | |

Barbed-wire Liniment.

(For Stock.)

| Carbolic acid | | | | J oz. |
|---------------|-----|-----|---------|--------------------|
| Turpentine | | | | $1\frac{1}{2}$ oz. |
| Stockholm tar | ••• | | | $2\frac{1}{2}$ oz. |
| Fish-oil to | | ••• | • • • • | 16 oz. |
| Mix. | | | | |

Gall-powder.

Mix.

| (For Saddle | and He | irness | Gall. |) |
|--------------------------------|--------|--------|-------|------|
| Powdered cam Prepared chall | phor | | | 1 oz |
| Prepared chall | k | | | бог |
| Rurnt alum | | | | 1 |

General Disinfectant.

| Cresol | | | | 62.5 parts |
|-------------|------|-------|-------|----------------|
| Resin | ••• | | | 12.5 parts |
| Caustic pot | tash | • • • | • • • | 2 parts |
| Water to | | | | 100 parts |

Heat the resin in the cresol until dissolved. Dissolve the potash in about 8 parts of water and add to the resin solution; boil the whole until saponification is complete, cool, and add enough water to make 100 parts.

Clothes=cleaning Compound.

| White Castile soap | | 11 | dr. |
|---------------------|-----|--------|-----|
| Alcohol | | | dr. |
| Glycerin | | 1 | oz. |
| Solution of ammonia | | 1 | oz. |
| Ether | ••• | 1 | oz. |
| Soft water to | | 16 | OZ. |

Mix. Add 3 dr. of this mixture to a 4-oz. bottle and add petrol, a little at a time shaking thoroughly after each addition, until bottle is full; the result will be a thick white cream.

Metal-polish.

| Tripoli | | | 3 oz. |
|--------------------|-----|------|----------|
| Tartaric acid | | | 1 dr. |
| Petrol | | | 14 oz. |
| Oil of mirbane | | | 10 drops |
| Mix. Apply with ra | ıg. | | - |
| 1 2 0 | 0 | | |

Silver-polish Paste.

| | | | | _ | |
|-----------------|-------|---------|---------|-------|---|
| Whiting | ••• | • • • | • • • • | 2 oz | • |
| Prepared chalk | | | | 1 oz. | |
| Hyposulphite of | | m | | J OZ | |
| Water to form a | thick | nocto | | 2 02 | • |
| water to form a | union | . paste | • | | |

Mix.

Furniture-polish.

| Turpentine | | 1 pint |
|--------------------|------|-------------|
| Boiled linseed oil | | 2 pints |
| Paraffin oil | | 2 pints |
| Mix. | | |

Another.

| Balsam of fir | | 4 oz. |
|--------------------|------|-------------|
| Ether | | 3 oz. |
| Turpentine | | 1 oz. |
| Dammar varnish | | 3 oz. |
| Raw linseed oil to | | 1 quart |
| | | |

Mix.

Baking-powder.

| Tartaric acid | | | 1 lb. |
|--------------------|---------|-------|--------|
| Cream of tartar | | | 2⅓ lb. |
| Sodium bicarbonate | ••• | | 3½ lb. |
| Maize starch | | | 6 lb. |
| Maize starch | • • • • | • • • | ar o |

Mix.

Mosquito-lotion.

| Ol. eucalypti | • • • | | | žiss. |
|----------------------|---------|-----|-----|---------|
| Æther. acetic. | • • • • | ••• | ••• | зvj. |
| Aq. coloniensis | | ••• | | ₹vj. |
| Tr. pyrethri flor. (| 1-5) | ••• | | 5viiss. |

Shampoo-powder.

| Potassii carb | | ••• | | 31j. |
|------------------|---------|-------|-------|------|
| Pulv. boracis | • • • • | | • • • | ъij. |
| Pulv. sapo. dur. | • • • | • • • | | 3j∙ |
| Ammon. carb. | • • • • | • • • | • • • | 3ss. |
| Ol. neroli | ••• | | • • • | q.s. |

M.

Talcum=powder.

| Boric acid | ••• | ••• | 1 oz. |
|---------------------|-----|-----|-----------|
| Salicylic acid | | 10 | 00 grains |
| Venetian talc | | | 7½ lb. |
| Powdered orris-root | | ••• | ½ OZ. |
| Ext. violet | ••• | ••• | ΣΩz. |

Tooth=paste.

| Precipitated chalk | | 2 lb. |
|---------------------|------|---------------|
| Powdered orris-root | | 4 oz. |
| Thymol | | 10 grains |
| Menthol | | 10 grains |
| Oil of cinnamon | | 20 minims |
| Oil of wintergreen | | Joz. |
| Salicylic acid | | 30 grains |
| Glycerite of starch | | a sufficiency |
| olour as desired. | | |

Parapheno.

| Camphor | | 2 | oz. |
|-----------------|------|--------|---------|
| Menthol | | 20 | grains |
| Soft paraffin | | 3 | OZ. |
| Liquid paraffin | | 6 | fl. oz. |
| Phenol | | 1 | OZ. |

Rub the camphor, menthol, and phenol together. Melt the paraffin on a water-bath; when melted add the petroleum, and when it begins to cool add the camphor mixture and stir well.

Family Salve.

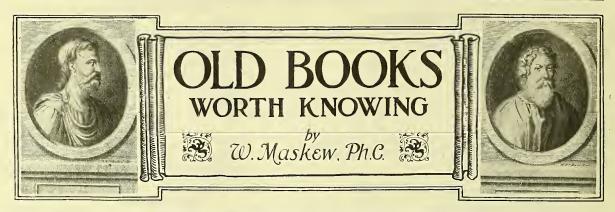
| Petrolatum | | | | 3xvj. |
|---------------|-----------|---------|-----|----------|
| Yellow wax | | ••• | ••• | 3j. |
| | | • • • • | | ₹ss. |
| Solid extract | of arnica | a | | зij. |
| Menthol | | • • • • | ••• | gr. x. |
| Carbolic acid | | | | ziij. |
| Oil of winter | green | | | gtt. xv. |
| | | | | |

Melt together the petroleum jelly and wax; rub down the extract of arnica with the molten base, add the menthol, carbolic acid, and oil before solidification sets in.

Rheumatic Liniment.

| | | | |
|-------------------|-------|------|-------|
| | | | živ. |
| | | | ξiij. |
| | | | iv. |
| Aceti | | | Зiij |
| Ext. hamamelid. o | lest. | | ₹vii |

Break the eggs and beat up with the vinegar: add alternately the mixed oil of wintergreen and turpentine and the distilled extract of witch-hazel, beating to make an emulsion.



THE quest of the antique has always been a fascinating A hobby, and there are many pharmacists who, their interest in their profession not being altogether one of l. s. d., devote some time to the study of matters relating

to the craft in bygone days.

Articles published in this journal on pharmaceutical ceramics, old bronze mortars, alchemical prints, and drugtrade tokens, have, I doubt not, been appreciated by many readers, so that I trust a few remarks on old medical, pharmaceutical, and alchemical books will at least prove interesting. Many a chemist treasures up some old herbal or dispensatory which perhaps two or three centuries ago occupied a proud position in an apothecary's shop, and has speculated on it; and all circumstances show that many pharmacists desire to make a further acquaintance with the early bibliography of the craft. There are experts in the subject who could write with more authority, but, as worthy old Fuller remarked in 1672, "I stand ready with a pencil in one hand and a spunge in the other, to add, alter, insert, efface, enlarge, and delete according to better information."

Though little interest attaches to the majority of old books, there are others which will always retain the constant admiration of their possessor. Through reading these old books we can often trace out the sources from which much of our present-day learning has grown. To study these relics of bygone centuries is to love them, and though great advancement has taken place there are, I believe, instances where we have altered many things in pharmacy without improvement. Again, there is a language full of force and expression which surpasses greatly much of that in the literature of the later centuries. Even so long ago we find the same curative virtues ascribed to many animal and herbal simples as now, and although it was not until the last sixty years that improved methods of science enabled us to explore the chemical principles to which the plants and other substances owe their medicinal action, it is surprising to note how often the observations of the early practitioners have been confirmed by the isolation of principles of marked activity.

Early Pharmacy and Medicine.

The pharmacist's art is assuredly one of prehistoric rigin. Perhaps the earliest reference to the healing art is in the Old Testament (Exodus xxx. 23-35), where instructions are given for the compounding of an ointment with cinnamon, calamus, galbanum, olive oil, etc. If we search further we find in the Apocrypha (Ecclesiasticus xxxviii. 8): "Of such doth the apothecary make a confection, and of his works there is no end." One may gather from the terminating sentence that many centuries ago there existed the morbid taste for a multiplication of remedies of doubtful worth; and this has remained till to-day. The reader of Pliny or Dioscorides must marvel at the number of herbal and animal substances which entered into the composition of popular medicines in those early times. Some of the remedies were curious and far-fetched, while others were disgusting. For example, man's skull powdered was given for epilepsy, human grease was ordered for gout, while "mummy, of the proper smell" was prescribed to prevent the blood coagulating. Curative virtues were ascribed to

the excrements of animals and reptiles, Dioscorides devoting a chapter to the medical uses of ordures. Among the metallic substances gold was extensively employed by the early physicians. Paracelsus prescribed it as a universal panacea. In the "Rich Storehouse of Medicine," 1650, there is described a method for making "a soverign drink for any infected person." The "London Dispensatory," 1605 edited by Dr. Salvariana statements. 1695, edited by Dr. Salmon, gives numerous preparations of gold. The use of gold-literally and figuratively-in the modern drink-cures is an instance of the striking reversion to old-time remedies.

When Athens became the seat of medical learning symbols were introduced by Æsculapius. He was in his day regarded by the Greeks as the god of medicine, though most of the subsequent writers consider him as a mere man. His priests had charge of the temples, which were thronged with the sick and suffering. Hippocrates has always held prominent rank as a writer, and was one of the most eminent men of his time. He was the introducer of new doctrines, and created a literature which has made his name immortal. There are numerous translations of his works; the one by Derome in 1665 is much esteemed.

During the heyday of the Roman Empire Cæsar invited doctors and learned men to live in Rome, and Pliny about that time first taught the advantages of writing prescriptions in a language unintelligible to the public. He was followed by the celebrated Dioscorides, whose works on materia medica for sixteen centuries were regarded as the highest authority. The earliest printed work of Dioscorides that has come under my notice is a Latin translation by Joanne Ruellio, dated 1517 and printed in Paris. Such



MATTHIOLUS'S "COMMENTARIES."

an early work is extremely valuable. Of this period was Matthiolus, a copy of whose works in French, "Les Commenaires de M. Pierre Andre Matthioli," is in my possession, and I give a photograph of the opening chapters. Aristotle and Celsus followed as prominent writers. The "Ethicorum" of the former was one of the earliest works printed in England, and only seven copies, all in public libraries, are known to exist. Celsus compiled an encyclopædia, and displayed his familiarity with medicine and philosophy. His favourite remedy was Veratrum viride. Claudius Galen, a name very familiar to pharmacists,

became popular, and certain of the early translations of his writings are eagerly sought after by antiquaries. I recently noted an edition of Galen's



GALEN AND DIOSCORIDES.

works catalogued in a London sale-room. The title was "Methodus Medendi. Thoma Linacro anglo interprete. 1526.

Avicenna, who was born in 918, wrote a considerable work in five books known as the "Canon." This formed the basis of all that was permitted to be taught in the dogmatic schools for several centuries. Even at the present day the medical world has not become entirely emancipated from his authority. The portrait of Avicenna is one of the characters adorning the Major diploma. The

earliest printed copy of Avicenna's works is now exceedingly valuable. It is printed in Gothic letter, fifty-six lines to a page, folio size, and bears the date 1470.



"REGIMEN SANITATIS SALERNI,"

The first great medical college was at Salerno, and became distinguished about the tenth century. William of Normandy was a patient there some years before he invaded England. The students at Salerno were numerous, and no distinction was made in regard to race, religion, or The Schola Salerinata continued until 1811, when it was closed by Napoleon. A work compiled at Salerno, entitled "Regimen Sani-tatis Salerni," was written "for use of the King of England" in doggerel rhyme. This had an immense circulation. A title-page from an early copy is shown in the ilustration. Of this work 160 editions were printed.

During the twelfth century Paris possessed the most distinguished university in Europe, and Roger Bacon graduated there in 1240.

Invention of Printing.

With the Renaissance came the discovery of the art of printing, for until this period all records were in manuscript, some of which, executed with infinite trouble and an immense expenditure of time, are of great beauty. Valuable specimens may be seen in the national museums. In the Vatican Library at Rome some thousands of these, mostly by Greek authors, have been preserved at the instance of Pope Nicholas V. Previous to the invention of movable type there existed a period, before 1500, when books were produced by means of carved wooden blocks and type. These are known as "incunabula." The earliest dated printed book is the "Psalterum," in 1457, by John Fust at Mentz. Then followed Gutenberg, and, later, Caxton in England, while printing was greatly encouraged in Holland. It may be a surprise to some to learn that even at the dawn of printing paper was manufactured with a water-mark, and this fortunate circumstance often affords a guide in authenticating valuable specimens. The progress of printing helped the spread of medical and chemical knowledge considerably. The Italians at this period were renowned for their skill in the sciences, an example of the state of knowledge in materia medica being the treatise on this subject by Saladin of Naples, dated 1450.

The profession of medicine and pharmacy in the middle ages included in its curriculum not only the study of drugs, but a knowledge of philosophy, magic, and astrology, and it was impossible to dissociate medicine from religion. This reminds the student of philosophy that medicine was formerly exclusively practised by the priests, and at the time referred to was slowly emerging from this undesirable condition.

The Middle Ages.

Basil Valentine (now considered as only a pen-name) introduced metallic substances into medicine and also discovered the volatile alkali (ammonia) and the mode of preparing it from ammonium chloride. Mercury was first employed in medicine in 1497, Berenger de Carpi having the credit for its introduction.

In 1509 a precocious youth entered the University of Basle

and began to study medicine, philosophy, and alchemy. This was Theophrastus Bombastus Paracelsus. Three years later he made a tour through Europe in search of knowledge, and in 1526 was appointed town physician at Basle. He avowed the greatest respect for Hippocrates, but held up to ridicule the teachings of Galen and Avicenna. Paracelsus has been styled the "Reformer of Medicine," the "Wondrous Paracelsus," "Life's Dispenser," etc. His works are numerous and have been largely in favour with occult writers. Paracelsus brought down upon himself the animosity of both the apothecaries and physicians for



VALENTINE'S TESTAMENT."

vulgarising the medical art and for making known secrets to the laity. He was murdered by his enemies in 1541.

The seventeenth century was characterised by a welldefined advance in knowledge, though many a genius who put new doctrines into practice was bitterly persecuted. Kepler, Galileo, and Giordano Bruno were prohibited from announcing their discoveries. Lest we should be tempted to flatter ourselves that such things could not happen now, it is well to remember that this opposition to new doctrines is perhaps as strong in the twentieth century as in the middle ages. Jan Baptista van Helmont, a native of Brussels, entered upon the study of medicine in 1599. He shortly afterwards published several works, including



VAN HELMONT'S "TUMULUS PESTIS."

"Ortus Medicinæ," "Theory of Paradoxes." "Cure of Wounds," "Tartar in Wine and God in Man"; but these are full of the mysticism and theosophy that characterised much of the literature of the period. As a chemist, how-ever, Van Helmont was perhaps the most learned of the period before Lavoisier. He was the first to give the name "gas" to aeriform bodies, and he observed that the application of heat would disengage gases from various substances. In many other ways his contributions to chemistry demand respect.

The names of Dodoens, Gerarde, Turner, and William Langham as botanists are still very familiar to pharmacists, although it is three centuries since they flourished. In 1616 William Harvey made known his discovery of the circulation of the blood, and was severely attacked on every side. His work, entitled "Exercitatio Anatomica de Mory Cordis et Sanguinis in Animalibus" (1628), is now a very valuable medical book. It should be mentioned that some writers attribute the discovery of the circulation of the blood to Servetus (circ. 1531), while the honour is also claimed for Colombo and Cesalpinus. Leichner in 1646 contributed a work against Harvey, entitled "De Motu Sanguinis Anti-Harveiana," and other anti-Harveyites, inconsensus of opinion now concedes the honour of the discovery to Harvey.

Regnier de Graaf, Raymond Vieussens, and Thomas Willis were notable contributors to medical science during the seventeenth century, and Francis de la Boë succeeded the younger Van Helmont as an exponent of the chemical school. Willis published "Pharmaceuticæ Rationalis" and also "The London Practice of Physic." His portrait,



WILLIS' " PHYSICK."

from an edition published shortly after his death, is reproduced. He was the first to distinguish the form of diabetes known as "diabetes mellitus." Robert Fludd (1574-1637), of Oxford, the Rosicrucian, was also regarded as an illustrious member of the fraternity. His works are now much valued and preserved as curious. The only one of his works translated into English is entitled "Mosaicall Philosophy," 1659. Sometimes he wrote under the pseudonyms "Rudolf Otreb" and "Joachim Frizius." Nostrums were at this time much in use, and were freely offered to the public. It was about this period that the celebrated Sir Kenelm Digby (1603-1665) gained fame. The rare portrait of him by Cross, which appears as a frontispiece to his "Choice and Experimented Receipts" (1668), is here reproduced. He discovered the necessity of oxygen to plants, while most chemists are acquainted with his "sympathetic powder" for the cure of wounds. The powder was not



KENELM DIGBY'S "RECEIPTS"

applied to the affected part, but to the weapon inflicting the injury. This was sprinkled with the powder and dressed with salve several times a day, while the wound was simply washed and bound up closely. From what we know of the surgery of the times, it is not surprising to learn that the wound generally healed more quickly than was usual. The next great luminary in England was Thomas Sydenham (1624-1689), who entered Oxford University in 1642. His admirers call him the "English Hippocrates." His writings refer to epidemic diseases, and he introduced the use of cinchona in the treatment of agues. Robert Boyle, Morton, Radcliffe, Boerhaave, and Van Swieten are all distinguished for their contributions to medical literature, and these writers carry us well into the eighteenth century and form a fitting termination to what I may describe as a flight through the history of that section of bibliography which concerns us as pharmacists.

Book-values.

Some reader bordering on a mild attack of bibliomania may appreciate a few remarks on book-values, and some explanation of why certain old volumes are so eagerly sought for. There is no royal read to this knowledge, actual experience and having something at stake being the best schools in which to learn. Some books are valuable

because they belong to a class dealing with a particular subject, and early books on angling, America, and Shakespeare are much more saleable than works of the same period dealing with medicine or alchemy. The condition of a book is an all-important factor in valuation; a missing leaf, title-page, and even a worm-hole are defects which are fatal to the sale-value of an old book. Some collectors will pay a high price for a book, not so much for its contents but because of some accidental circumstance, such as having been in the possession of some important personage.

There are fashions in biblomania, and books eagerly wanted at one period are neglected at another. Values are sometimes enhanced if the book is printed on large paper with wide margins, and first editions with uncut edges

have the precedence over ordinary editions.

The only medical and pharmaceutical works really sought after are early ones dated previous to 1660, though the publications from 1650 to 1750 are not to be lightly passed over without consideration, as they are often worth col-

lecting.

Some of the small, curious books of old recipes in cookery and medicine, by Hannah Woolley, the Duchess of Kent, the Countess of Richmond, Lord Ruthven, and Sir Kenelm Digby, especially if containing portraits by W. Faithorne or Cross, should by all means be treasured. Bibliomania often extends to the binding and the work of notable craftsmen—Derome, for instance—is highly appreciated. Books with pictures on the edges are valued quite apart from the contents. Another collector will confine himself to miniature books, and others buy books simply for the book-plates they contain. The study of old books is practically inexhaustible, and what little knowledge I possess of the subject has been acquired within the last few years by attending and studying the records of the London salerooms, among which the world-famous Sotheby's holds a premier rank.

Some Book-titles.

I have prepared a list of books which should interest chemist book-lovers. It has been compiled from books either in my possession or which I have recently noted as available to the collector. I give a first instalment of the list, and as opportunity permits others will be printed in this journal. Prices are appended in some instances, but these must be regarded only as approximate, the value of a book being regulated by so many accidental circumstances. I have often seen the same book priced in one shop at three times the amount asked at another, the booksellers possibly getting the same average of profit:

The Secretes of the Reverend Maister Alexis of Piedmont, containing excellent remedies against divers diseases, woundes, and other accidents. Translated oute of Frenche into Englyshe by William Warde. Printed at London by

Rowland Hall for Nycolas England, dwellynge in Paternoster Rowe. 1562. Black letter. (5l. 15s.)

This desirable old volume is one of my treasures, inasmuch as its condition is perfect. It is printed in three parts, each with a table, and it is one of its peculiarities that the leaves, and not the pages, are numbered. It is more of the nature of an old wife's book of pantry and other recipes. The early chapters deal with the "manner and secrete to conserve man's youth and to hold backe olde age." Mention is also made of the "Pylles of Mayster Michaell, a Scot, the whiche heale the griefe or payne of the heade, bee it inveterate or recent, purge the brayne, claryfy the syghte, cause a man to have a good memorye, good colour of the face, and also good for many infirmities." For such as need a depilatory here is a sample advertisement for a preparation that "wyll make the heare fall off":

Fyrst you muste note that the heare will not fall awaye, but when the mone decreaseth, that is to say in the quarter of the wane and it is far better to make them fall off with the Oyntmente or with oyle than to plucke them oute with a paire of pincers as soom gentlewomen do use in France, because it doth violence to the flesh, moveth the bloud and enlargeth the pores and also maketh the heare to growe againe greater.

ALLEYNE (JOHN).—A New Englishe Dispensatory, containing a more accurate account of the simple medicines than any hitherto extant. 1758.

ALPINUS (PROSPER).—De Plantis Egypti Liber. Venetiis, 1592

Alpinus was a physician at Padua. He visited Egypt between 1580 and 1586, and published on his return several works; the above-mentioned describes Cassia fistula, the sycamore, fig, and tamarind trees.

ASCHAM (ANTHONY).—A little herbal of the Properties of Herbes. 1550. (Valuable.)
The author was Vicar of Burneston, Yorks, and made a

PHARMACOPOEIA

BATEANA,

COMPOSITIONES GALES .

PROCEEDS CHYMICE

dige Aightheires extracti lithus, Dolkmins distringer

Copi & Openia

PHARM. BATEANA.

study of astrology and astronomy.

BARBETTE (PAUL).—Thesaurus Chirurgie: the chirurgical and anatomical works composed according to the doctrine of the circulation of the blood and other new inventions of the moderns. Translated out of Low Dutch. 3rd edition. 1676.

BARROUGH (PHILIP) .- The Method of Physick: containing the causes, signes, and cures of inward disease in man's body from the head to the foot. 8th edition. 1639. (20s.)

Pharmacopæia Bateana. 1690. A collection of 900 recipes

used in the practice of George Bate, Physician to Charles II. Edited by Mr. James Shipton, apothecary, of London.

This work, as well as some later editions-my copy is dated 1719—was published in Latin, and is all the more

unintelligible as many cryptic symbols are also introduced. For instance, a square with a cross beneath was intended for tartar; a triangle with apex downward stood for water, and a Maltese cross for vinegar. Wm. Salmon also edited a Bates Dispensatory. George Bate lived from 1608 to 1669.

BEGUINUS (John). - Tyrocinium Chymicum, or Chymical Essays acquired from the fountain of nature and manuel experience. (Illustrated.) 1669.

The processes described in this work for obtaining the various substances are extremely vague. The greatest interest

PHARM. BATEANA. centres round the quaint frontispiece containing a replica of what would pass as a modern chemist's shop where the manual experience was obtained;

while an attempt to depict the fountain of nature, the astrologist, the alchymist, and laboratory adjuncts are also features of its embellishments.

Berlu (Jacob).—The Treasury of Drugs Unlocked. 2nd edition. 1724. The author introduces his work to "courteous and benevolent

reader" in the following fashion: Nothing can more effectually promote the interests of trade; than a perfect knowledge of the articles intended to be dealt in, a fact which encourages me in the hope that this treatise will be well received by druggists who are as a class too generous to entertain so narrow-

"TYROCINIUM CHYMICUM." minded an opinion as that Romish one which urges that it is good to keep the people in ignorance.

BOYLE (HON. ROBERT).—The Aerial Noctiluca, or some new phenomena and a process of a Factitious Self Shining substance. Imported in a letter to a friend living in the country. 1680.

The subject of this letter is phosphorus. describes two kinds: (1) Natural, as the glow-worm; (2) artificial, as the bolonia-stone, phosphorus, hermeticus of Balduinus. The author is the discover of Boyle's law, and among his voluminous works there is an interesting little book of receipts.

CASTLE (GEO.).—The Chymical Galenist. A treatise wherein the Practice of the ancients is reconcil'd to the new discoveries in the theory of Physick. 1667.

CHARRAS (Moses).—The Royal Pharmacopæia, Galenical and Chymical, according to the Practice of the most Eminent Physitians of France Faithfully Englished. 1678.

A complete treatise (folio size) on pharmacy. Contains many of the nasty concoctions, such as powder of vipers, oil of worms, and oil of scorpions. Chapter 75 treats of regulus of antimony, wherein is the following:

Then casting it into fit moulds you may make Goblets

or else Pills which are call'd Perpetual; of which you may give one at a time to strong constitutions to purge according to the disposition of the humours, sometime upward, but



"THE ROYAL PHARMACOPŒIA."

never failing downwards; searching afterwards for the pill and washing it, to serve as often as need requires, where the patient has no aversion to it.

Nearer the end of the book are some miscellaneous recipes, of which the following sample will suffice:

OINTMENT TO CATCH FISH.

Take Man's and Cats' fat of each half an ounce munmy finely powdered three drams. Cummin one dram Oil of Anise and Spike six drops Civet and Camphire 5 grains. Has wonderful virtue to draw fish. Rub the line with it and bait the hook with an earth-worm.

CULPEPER (NICHOLAS).—The English Physician, or an Astrologo-Physical Discourse of the Vulgar Herbs of this Nation. Printed in roman letter and containing portrait.



CULPEPER'S "SCHOOL OF PHYSICK."

Printed for the benefit of the Commonwealth of England. 1652.

This is the most valuable of Culpeper's works. None of the later issues realise more than a few shillings in the London sale-rooms. It is commonly referred to as Culpeper's "Herbal."

- Physicall and Chymicall way of Curing the most difficult and Incurable Diseases. 1656.

— Astrological Judgment of Diseases. 1655. — Catalogue of Cures. 1656. — School for Physick. 1659.

A Treatisc of the Rickets. 1668.

Medicament's for the Poor. 1670.
School for Physick. 1678. Second edition.

Contains curious narrative of the author's life by his wife, Alcie Culpeper, also rare portrait.

- The Complete Midwife's Practice. Enlarged in the most weighty and high concernments of the Birth of Man. 4th edition, with additions by Sir Theodore Mayerns, and a further discovery of those secretes kept close in the breast of Mr. Nich. Culpeper never made publick till now. 1680. Contains a fine portrait of the "expert and famous Madam Louys Bourgeois, midwife to the Queene of France.

- Directory for Midwives. 1684

Culpeper, born in 1616, is a well-known writer on astro-

logy and medicine. He first translated the London Pharmacopæia into English, which fact, combined with the sarcastic remarks on that compilation, made him the object



"THE COMPLETE MIDWIFE'S PRACTICE."

of enmity of the College of Physicians. Many of his works were published after his death (1654), and even now modern editions of his "Herbal" are read by the common people.



"PHARMACOPŒIA EXTEMPORANEA."

Fuller (Thos.).—Pharmacopæia Extemporanea. Containing a 1,000 select prescriptions answering most intentions of cure. 2nd edition, 1714; 4th edition, 1730.

Thomas Fuller (1654-1734) was a physician who practised at Sevenoaks. This work contains about thirty different recipes for making ale for various complaints.

GEBER.—The Works of Geber, Arabian Philosopher. By Russell. 1678.

Gerard (John).—The Herball, or Generall Historie of Plantes. First edition. With Portrait by Rogers and fine engraved title. 1597. (161.)

— The Herball. Very much enlarged and amended by Thomas Johnson, Citizen and Apothecarye of London. Johnson's first edition, with Gerard's portrait by Payne. 1633. (5l.)

John Gerard was born in Cheshire in 1545 and died in 1612. He published a catalogue of plants in his garden at Holborn in 1596. In the dedication pages of the herbal he comments on the enormity of his undertaking and includes a few laudatory and congratulatory epistles from admirers of his works. Half a page is filled by enumerating the noble patrons of Mathiolus, which leads the writer to remark:

What age do we live in here that will suffer all virtue to go unrewarded. Master Gerard hath taken more pains than ever Mathiolus in his commentaries, and yet I doubt whether ho shall taste of the liberalitic of either Prince, Duke, Earle, Bishop, or Publique Estate. Let a man excell never so much in any excellent knowledge, nevertheless many times he is not so much regarded as a Jester Boaster or Mountebanke.

It is, however, attributed to Gerard that he copied largely from the "Herball" of Dodoens.

General (C.).—The Newe Jewell of Health wherein is contayned the most excellent Secretes of Phisicke an Philosophie. Black letter. 1576. (31.)

Johnson (Thomas).—Opuscula Omnia Botanica.

to 1641.

A work by the same author of the enlarged Gerarde's Herbal. It is dedicated to his wandering companions, the i number of medicines.

most noble Pharmaceutical [Apothecaries'] Society of Lon-The genus Johnsonia is named after him. He was



GESNER'S " JEWEL OF HEALTH."

killed in 1644 from the effects of a wound received at the defence of Basing House.

LE FEBURE (NICASIUS).—A Complete Body of Chymistry. Teaching the whole practice thereof by the most exact preparations of animals, vegetables, and minerals. 1664.

- A Competent Body of Chymistry. Wherein is contained whatsoever is necessary for the attaining to the curious knowledge of this art. Laid open in two Books and Dedicated to the use of all Apothecaries. Rendered into English by P. D. C. Esq., one of the Gentlemen of His Majesties Privy Chamber. 1670.

Lemery (Nicholas).—A Course of Chymistry, containing

the easiest manner of performing those operations that are of use in Physic. Translated by Walter Harris. 1677.

Lemery defines "chemistry" as "an art that teaches how

to separate the different substances which are found in mixt Bodies." This definition, though not accurate, was an advance on that of previous writers, whose ultimate aim was to discover a universal elixir. Under the heading "Nitre" directions are given for making spirits of nitre dulcified.

MARKHAM (GERVASE).—Maisterpiece containing all know-

ledge belonging to a Smith, Farrier, or Horse Leach touching the curing of all diseases in horses drawne with great paine and most approved experience from the publicke practice in Christendome and from the private practice of all the best farriers of the Kingdome. Imprinted by Nicholas Okes 1615. (25s.)

Markham was a versatile writer, and is said to have imported the first Arab horse into England. There are a good many collectors of his works.

Occult Physic. By W. W. Philosophus, student in the celestial sciences. 1660.

The writer of this work evidently wishes to hide his identity, at the same time holding no mean opinion of his work. He assures his readers that "he has been as faithful as it is for mortal man to be." Many of his recipes are uninviting. For example, he says:

Take a great toad, kill him, and put him into a horse dunghill. There let him lie, and the ants will consume the flesh. In the head you will find a thing like a stone, great or little, the which, being set in gold and worn about a man, doth give him warning of any mischief or ill, by changing colour in divers manners

Paracelsus.—Aureoli Theophrasti Paracelsi eremitæ Philosophi summi operum Latinæ redditorum. Cum gratia et privilego Cæsar Majesti. Basilæ, 1575.

Paracelsi von Hozenhaim. Archidoxa ex Theophrastia: Sampt den Büchern Praparationum, de Tinctura Physicorum, etc. Von J. A. Wimpeneo. Munchen, 1570.

Pharmacopæia Reformata. London, 1744. A criticism of the draft Pharmacopæia. The author does not make public his name, and commends the action of the committee for having used the pruning-knife "with freedom and severity." He lays down one or two principles which deserve quotation: (1) No medicine should contain more ingredients than appear absolutely necessary; (2) such simples as are indigenous, or are easily to be procured in perfection, to be preferred to all others; (3) a medium to be kept between superfluity and penury with regard to the

Lactic-acid Bacilli Preparations.

By W. Harrison Martindale, Ph.D., Marburg.

[The following passages are extracted from a much longer monograph on the subject, which the author read to the Chemists' Assistants' Association on Thursday evening, January 28. The first portion of the discourse was historical, and is only briefly referred to here; he then described the lactic micro-organisms and how curdled or sour milk is made with them, and proceeded to give an account of bacillary and chemical investigations on the subject, the general results of which are here given. The author is having the whole paper published in pamphlet form, and copies of it may be obtained from him at 10 Cavendish Street, London, W.]

THE question may well be asked, How was the theory of the wonderful properties of the lactic-acid bacillus evolved? Why not, for example, use the Bacterium Aceti? Why, indeed, employ such a peculiar medicament as lactic acid at all? There must surely be, one would think, some more powerful antiseptic than this comparatively rarely used item in therapeutics which could be generated in the inner man. Then, again, one can but associate the idea of lactic acid with rancidity; the administration of sourced milk to infants will, even at the present time, hardly appeal to the mother, whatever her belief may be in its virtues to the adult.

Metchnikoff traces the evolution of his theory delightfully in his work, "The Prolongation of Life," starting with the basis that the newly born infant has sterile intestines, which, on partaking of the first drop of mother's milk, commence to be infected with—almost solely—the bacillus bifidus.

It was Dr. Cohendy who placed the theory of possible arrest of intestinal fermentation by lactic-acid bacilli on a firm footing. He took during seventy-four days quantities of pure lactic-bacilli cultures ranging from 280 to 350 grams. He proved that even with a mixed diet intestinal putrefaction had decreased at the end of this time, and that the diminution persisted several weeks after taking the bacilli had ceased.

[Here the author gave details about Kefir, Sauerkraut, Egyptian Leben, and other precursors of Metchnikoff's sour milk.]

DESCRIPTION OF THE VARIOUS BACTERIA.

[The author's notes are summarised in the following table.]

| Organism and Synonyms | Gram or Non-Gram Staining | Non-Gram Appearance | | | | |
|---|---------------------------------|---|---|--|--|--|
| Bacterium Cau- casicum (Kern); syn. Massol's Ba- cillus, syn. Bou- chard's Bacillus, syn. Bulgarian Bacillus, | + | Large square- shaped | This organism appears to take a little time to get itself established, but ultimately is the omnipresent bacterium. It is a strong lactic-acid producer. | | | |
| Bacterium Gün- theri; syn. B. acidi paralactici. | - | Short rods with pointed ends in pairs or short chains. | Gives a smooth, non - leathery form of curd. It appears to be killed off to some extent in the curdling of milk, being pro- bably ousted by B. Caucasicum. | | | |
| Hüppe's Bacillus; syn. B. acidi lactici. | (See text). | Coccoid shape. Usu- ally in pairs, rarely longer chains | Causes bitterness, breaks up fat and proteolytic sub- stances. | | | |

My thanks are due to Dr. R. W. Allen for some assistance in unravelling some of these points in the bacteriology of the subject.

PREPARATION OF THE CURDLED MILK.

Curdled milk forms one of the most agreeable modes of treatment with active lactic-acid bacilli. Absolute sterilisation of the milk before introducing the lactic organisms is

essential. Pathogenic organisms—e.g., that of cholera—persist if present in a sample of milk even after the milk has soured, similarly with the tubercle bacillus. Allen has demonstrated that milk obtained in the ordinary way of business is sometimes so teeming with streptococci and pus as to even kill off the struggling Bacillus acidi lactici introduced into the same in the form of a crushed-up tablet and incubated over night. It is, by the way, well to remember that an organism dividing three times an hour (as mentioned in a recent contribution on "Surgical Methods" by Sir W. Watson Cheyne), which is a fair average, will give rise to something like thirty-three million bacteria in twelve hours.

To kill all organisms in milk would necessitate exposure to a temperature of 226 to 248° F., which would give the milk an unpleasant flavour. Pasteurising at 140° F. is not sufficient to kill B. tuberculosis or the spores of the butyric bacilli. Metchnikoff, therefore, advises boiling for several minutes. Allen recommends the milk to be boiled for half an hour.

Recently I had occasion to conduct some experiments with a view to making an apparatus to curdle the milk satisfactorily, and I came to the conclusion that dry heat—hot air, properly ventilated, produced by one of Clarke's night-

lights—worked satisfactorily. A temperature between 35° and 42° C. should be maintained. Acid-production ceases altogether at 45.5° C. (Wynter Blythe). An apparatus of this kind is illustrated. The upper part, containing jar of milk, fits (for packing purposes) into the lower compartment (containing nightlight when in use).

Metchnikoff recommends curdled milk for regular consumption to be made from skimmed milk "as it is undesirable to absorb too much fatty matter." Providing one has a strain of organisms that does not decom-

pose fat and produce a bitter-tasting product, this, perhaps, is open to discussion (but *vide* literature, "Lancet," ii. 1908, 372). Everyone knows the difference in flavour between good fresh milk and skim milk.

Three hundred to 500 c.c. (10 to 17 oz.) is a daily dose taken with or between meals, not necessarily all at once. It is usually taken twelve to twenty-four hours after souring has been started—some consume it with relish even ten days old. I thought it would be of interest to examine the principal preparations on the market bacteriologically and chemically to find out—

1. Their qualification to rank with the Bulgarian and paralactic bacilli combination as to active bacterial growth, absence of yeast and other extraneous organisms, production of curd of good flavour, absence of bitterness, and to give a convenient staining method for the bacteria when examining microscopically.

As to active production of lactic acid.
 As to casein rendered soluble.

4. As to phosphate dissolved.

I append also

- 5. Notes of examination of dairy products.
- 6. Two media other than milk for use.
- 7. Some details from abroad.
- 8. Therapeutic notes.

1.—ORGANISMS PRODUCED AND CURD FORMATION.

The property of producing lactic acid is common to a vast number of organisms (cf. "Lancet," ii. 1908, 957), and it is an interesting point that the people of the Eastern countries have for centuries thrived and lived to great ages on milk soured in a most rough-and-ready way, containing all kinds of extraneous yeasts, and doubtless even dangerous organisms. Nearly all the preparations on the market are directed to be used differently for curdling milk. In the following data I worked according to the directions of the various firms. I have designated them for reference Nos. 1 to 6. Loopfuls were examined after ten and twenty-four hours respectively.

At twenty-four hours Nos. 1 and 2 showed B. Hüppe much in evidence as before. The curd had separated in both cases. No. 3 showed various cocci with a few B. Caucasicum; Nos. 4, 5, and 6 showed B. Caucasicum and B. Hüppe.

Ten-hour Results.

| No. | Curd | Taste | *Movement of Fat Globules indicating Organism | Organism | | | | | | | |
|-----|-----------------------|----------------------|---|--|--|--|--|--|--|--|--|
| 1 | Fair | Distinctly bitter | Some movement | B. Hüppe and B. Caucasicum. (Too much B. Hüppe, likely to be bitter and separate.) | | | | | | | |
| 2 | Curd | Slightly bitter | Active movement | Copious B. Caucasicum and B. Hüppe. | | | | | | | |
| 3 | Poor | Nasty taste | Nil | Very few organisms. (B. Caucasicum and B. Hüppe.) | | | | | | | |
| 4 | Goodeurd | Pleasant | Not marked | B. Caucasicum and B. Hüppe, and few B. Günther. | | | | | | | |
| 5. | Not satis- factory | - | No movement | B. Caucasicum principally. | | | | | | | |
| 6 | Not curdled | - | Some movement | B. Caucasicum, B Hüppe, and others. | | | | | | | |

^{*} It is not easy to observe the organisms themselves in the curd owing to its opacity.

No. 4 was still a good curd, with no separation of whey to speak of. Nos. 3, 5, and 6, which had not set in ten hours, had now curdled. Congo Red Paper gave reaction with Nos. 1, 2, and 4 only; very slight, if any, with the others. It is, by the way, rather a strange fact that efforts on two occasions to obtain a good curd with "dried milk" reconverted into milk were unavailing; one obtains a lumpy product, and a large amount of water is thrown out.

[The method of staining the micro-organisms was here described.]

2.—ESTIMATION OF LACTIC ACID.

M. Fouard at the Pasteur Institute found in soured milk. made according to Metchnikoff's method, 1 per cent. of lactic acid when ready for consumption. I examined various samples of commercial lactic ferments in this way, after twenty-four hours' cultivation. It was firstly necessary to determine the acidity of the fresh milk; 10 c.c. required 1.8 c.c. N/10 NaOH=0.162 per cent., total acidity calculated as lactic acid.

No. 1. 10 c.c. of the milk after cultivation with ferment required 10 c.c.—1.8 c.c.=8.2 c.c. N/10 NaOH=0.738 per cent. acid increase.

No. 2. 10 c.c. ditto ditto, required 8.8 c.c.=0.63 per cent.

No. 3. 10 c.c. ditto ditto required 6.7 c.c. = 0.441 per cent. acid increase.

No. 4. 10 c.c. ditto ditto required 10.6 c.c. = 0.79 per cent.

acid increase.
No. 5. 10 c.c. ditto ditto required 8 c.c.=0.558 per cent. acid increase.

No. 6. 10 c.c. ditto ditto 7.1 c.c.=0.477 per cent. acid in-

The numbers refer to the same tablets as those in the previous set of experiments. After the lapse of thirtysix hours the acidity of each sample would doubtless be increased. Herschell states that the lactic acid never exceeds 1.6 per cent., even after forty-eight hours' incubation. The amount obviously depends on the content of

lactose, the average of this constituent being 4 per cent.

Since these experiments were conducted the "British Medical Journal," of January 9, p. 104, has published an article on the subject. It will be noted that my figures show a much larger yield of soid with tablets of regions. show a much larger yield of acid with tablets of various firms. If properly made there is no reason why lactic-acid bacilli in tablet-form should not keep good for months or even years.

Complete experimental data and observations were adduced at this point.]

3.—CASEIN RENDERED SOLUBLE.

It was found at the Pasteur Institute that 38 per cent. of the casein in milk could be rendered soluble by treatment

with lactic-acid organisms (Metchnikoff, p. 180). Herschell states that as much as 50 per cent. of it is converted into albumose and peptone by this means. The point seemed worth investigation.

Milk in the fresh condition contains all its proteid as soluble caseinogen. This is converted entirely into casein on addition of adequate acid; therefore after acidifying in this manner there should be no proteid in the filtrate, and

ergo the filtrate should not give the biuret reaction.

The casein was precipitated from a sample of fresh milk and the filtrate tested. It was found that the milk-whey gives a slight biuret reaction. The casein content was 2.6 per cent. In the case of milk treated with a ferment much of the caseinogen is precipitated as casein during the fermentation. It is necessary to determine whether there remains behind any unaltered caseinogen or whether it has been "peptonised" into solution. A portion of the same milk as the above was fermented with two commercial forms of dried lactic-acid bacilli; a little of the whey after thirty-six hours was removed and filtered bright—this liquid gave distinct biuret reaction in about equal extent in each case. The peptone would be present in the form of acid peptone; a little alkali was added, but the precipitate was hardly visible. The whey in each case gave no precipitation with acetic acid; it could not, therefore, be caseinogen, but the casein in a peptonised condition. Some work was done to endeavour to make the biuret reaction colorimetric, but this was not practicable.

It was found that the whey from fresh milk to which 0.09 per cent. lactic acid had been added, and which had been incubated twenty hours, gave a somewhat similar depth of biuret colour to that given by the whey of the same milk which had been fermented with lactic ferment.

4.—Phosphate Rendered Soluble.

Metchnikoff states that 68 per cent. of the calcium phos phate (which he terms the chief mineral substance of milk) was rendered soluble during fermentation by his process (Bulgarian Bacillus and B. paralactici). Turning up the history of the matter, one finds that Scheele, who discovered lactic acid, established that calcium phosphate is always present in the casein. He considered it, indeed, a compound, the proportion being always 1 to 1.5 per cent. of calcium phosphate to 100 of dried casein. The soluble phosphate was estimated in 10 c.c. of new fresh milk before treatment with ferment (Metchnikoff does not say how he proceeded). This required 4 c.c. of uranium acetate $(1 \text{ c.c.} = 0.005 \text{ gram } P_2O_5) = 0.2 \text{ per cent. } P_2O_5 \text{ (other samples)}$ gave 0.2 and 0.25 per cent. respectively). According to Allen's "Commercial Organic Analysis" the ash of milk According to is on an average 0.797 per cent.; of this about 25 per cent. -i.e., 0.199 per cent.-is P₂O₅.

The P2O5 taken on the whey of this milk (by rennet) was 0.11 per cent. After treatment with a lactic ferment and clearing by heat, the whey was found to contain 0.175 per

cent. P_2O_5 .

5.—DAIRY COMPANIES' PRODUCTS.

We now come to the question of the dairy companies' supplies of these preparations. It is an open question whether an article of this nature should be in the hands of the milk-trade. I made purchases on January 11 at three depôts laying themselves out for this, and on examination obtained the following:

Microscopic Examination.

Firm "A "-Curdled milk ... B. Huppe principally, Caucasicum very few. B. Huppe principally, Caucasicum few, yeasts many, and ? Gunther. butter-milk Sauer Milch B. Huppe, Gunther, and Cauca-,, sicum. Firm "B"—
No. 1 variety
No. 2 ,,
No. 3 ,,
Firm "C"— Similar to above. Buttermilk... P. Huppe much in evidence. ... B. Caucasicum a few, yeasts many.

Firm "D"-

Dairy in a provincial town. Assorted (old when examined).

All these responded on the first occasion to quite a "strong," or comparatively non-sensitive, Congo paper, showing that acid-production had been proceeding some time; but, strangely enough, on a later occasion none of them gave such a marked reaction with this test-paper.

6.—SUGAR WHEY AND LACTIC BACILLI MALT BOUILLON.

These two preparations have been advocated as substitutes for the curdled milk by Cohendy and Herschell, where the patient does not favour the taste of the milk:

To prepare sugar whey, boil the milk gently for five minutes, add to same while boiling 1.5 c.c. of hydrochloric acid to the litre. Separate the whey by a strainer; render just alkaline; add 500 grams of water, 3 grams gelatin, and 15 grams cane sugar; sterilise and filter. Add lactic acid tablets or liquid preparation after cooling and incubate at 37° C. for eight to ten hours. Flavour according to taste.

For lactic havill in malt houilband discales a tablespectful.

For lactic bacilli in malt bouillon, dissolve a tablespoonful of malt extract in 20 oz. of water. Boil a few minutes, allow to stand, and decant from any sediment. Inoculate with lactic acid bacilli as with the previous preparation.

The paper was concluded with notes from abroad and new therapeutic memoranda.

Radium in Surgery.

SIR FREDERICK TREVES, Bart., F.R.C.S., delivered D a lecture on this subject at the London Hospital Medical College on Tuesday, January 26. In his introductory remarks he said that the x rays and high-frequency currents had hardly fulfilled the hopes that were raised by them at their introduction; and as to the Finsen light, we are now not far off the limit of the good which it can effect. But radium cures every form of nævus in the widest sense of the word-the port-wine stain, the pigmented mole, and the hairy mole. In one case of angioma on the eyelid, the size of a plum, which had been twice excised and twice treated with the actual cautery, a cure was effected without pain or discomfort. Radium had cured another case of angioma extending over nearly all one side of the face, and a fibrous angioma, the size of a hen's egg, in the substance of the arm of a child was dispersed by it in four weeks. Applied on varnished silk, it almost immediately removed the itching of eczema, which did not return. It has cured rodent ulcers which had existed for years, and in which the Finsen light and the x rays had been tried without permanent success. Again, it had cured epitheliomata of the tongue, lip, cheek, etc., and the results were apparently permanent. The secret of its successful use lies in the realisation of the fact that extent of surface is requireda little radium spread over a wide area is more powerful than a solid bead composed of it. In Paris, Dr. Domenici used radium of quarter strength spread on plates of varying sizes and forms, and in this way he was able to gauge the power employed to a nicety. A proper prescription has to be drawn up for each patient. A plate of certain size is ordered; the proportions of β and γ rays are prescribed, and perhaps the a rays are cut off by an aluminium plate; the distance at which the plate is held and the time of its application are carefully regulated. Besides the rays, radium gives off an emanation, and probably its future in surgery lies with this emanation. He had been informed that after a solution of deposit from the emanation had been injected into a mouse in which abdominal cancer had been artificially produced the cancer vanished. In a patient of his own each subcutaneous injection of emanation solution produced a scar and a skin-pigmentation such as he had never before seen in all his surgical experience. As to the lines which future investigation must follow in regard to the therapeutic action of radium, it is essential to ascertain the action both of the rays and of the emanation on bacteria and their products. The selective action of radium on the tissues must also be investigated. Has it any selective power on embryonic tissue? What will be the effect of introducing it into the substance of a growth in tubes made of material that is permeable to its rays? What are the effects, local and general, of radio-active water? In Paris such water is sold as an application for indolent wounds, and at Joachimstal a large spa is being erected to enable the public to drink it. Sir Frederick finally said that extreme caution must be exercised in speaking of what radium is going to do, else disappointment is sure to result.

Prescription Problem.

The autograph prescription which was given in the Supplement to The Chemist and Druggist, January 16, has proved difficult of solution. The number of competitors was, in consequence, not large, but many sent in either correct or nearly correct answers. The reading of the script is as follows:

The prescription, it will be noted, is of the hospital-prescribing type, and in the ordinary course other difficulties would have arisen as to what is meant by mist. efferves. and pil. purg. These, however, do not concern us on this occasion. It will be noticed that no dose is stated of the mixture, a circumstance which has puzzled some of the competitors. Several in consequence of this endeavoured to make the first item into a solid effervescent preparation of which a drachm dose was to be taken. The other difficulty was in regard to the reading of the pil. purg., which some made into pil. hydrarg., pil. euony. It is satisfactory to know that although leeches are nearly a thing of the past (pace "a country chemist," p. 178) only one competitor was misled as to the reading of the last line. In regard to the correct replies received, no London chemist has sent in a faultless solution, neither have we received solutions from Scotland or Ireland that pass muster. The first and second correct answers received from the Provinces were sent by the following, to whom prizes are awarded:

Mr. Frank S. Patterson, C/o Mr. A. G. Harden, 61 Grosvenor Road, Tunbridge Wells.

Mr. Ernest Watkinson, C/o Steward & Son, 5 Market Place,

Great Yarmouth.

The next problem which we ask our subscribers to solve is the prescription given below. Answers, on postcards should be sent in not later than February 3.

Ple Com: Big Ple Com: Big Sunlards # XXV You. Brithor 4XX Suf Cay oph 3' Ag 25 3 ij 3. 4 hor

Korean Ginseng.—The ginseng monopoly has been promulgated in the "Korean Official Gazette." According to the "Seoul Press," it reserves for the Government the exclusive right in the preparation of ginseng, but the cultivation of the plant and the sale or exportation of prepared ginseng may be undertaken by private individuals, provided that they, in accordance with stated procedure, secure official sanction.

C. & D. Diary.

Postcard Competition.—(Home Section.)

It has been a more arduous task than ever for us to select the winners of the Diary Coupon Competition this year owing to the unusually generous response, and, as will be seen from the names given below, quite a large number of competitors have come within an ace of correctly answering the whole five questions, the first of which was as follows:

Which is the Most Interesting Advertisement?

The pride of place is given to SCHIMMEL & Co. (pp. 276-279), who are closely followed by Allen & Hanburys, Ltd. (pp. 160-168), while Burroughs Wellcome run a close third. After these three there is a big drop, when we come to the following: Bernard Slack (p. 94), Parke, Davis & Co. (pp. 10-13), R. J. Reuter (pp. 77-83), Standard Tablet Co. (pp. 255-257), and the Alliance Drug and Chemical Co. (pp. 300-301). Others which have been singled out for mention include Bennett, Sons & Shears, Ltd. (p. 85), J. Boulton & Co., Ltd. (p. 323), Boval (pp. 61, 261), Ferris & Co. (pp. 505-507), J. H. Haywood (p. 524), Harlene (p. 52), John Jakson & Co. (p. 486-487), Newball & Mason (pp. 59-60), W. Martindale (pp. 93, 307), F. Schutze & Co. (pp. 72, 73, 511), Wand Manufacturing Co. (p. 322), Yardley & Co., Ltd. (p. 485), and Zotos, Ltd. (pp. 290-291).

Which is the Most Artistic Advertisement?

was the second question, and Burroughs Wellcome & Co. (pp. 145-149) take an easy first place in the opinion of competitors, and Allen & Hanburys, Ltd., are placed next. In much diminished numbers and in order of voting are the following: Stevenson & Howell, Ltd. (pp. 8-9), Hearon, Squire & Francis, Ltd. (pp. 245-248), S. Maw, Son & Sons (pp. 17-21), Standard Tablet Co. (pp. 255-257), Calox (p. 71), Lemco (ii), Potter & Clarke (pp. 154-157), J. H. Haywood (p. 524), Newball & Mason (pp. 59-60), and Vernon & Co., Ltd. (p. 516).

Which is the Most Original Advertisement?

Quite 60 per cent. of the entrants give their votes for Bernard Slack (p. 94). Next in order of merit are Burroughs Wellcome & Co. (pp. 144-149), and Arfie, Ltd. (p. 324). who follow very closely. Christy Strong (p. 97) and Hansa Platz eau de Cologne have practically equal votes; and in another category are placed Allen & Hanburys, Ltd. (pp. 160-168), and Stevenson & Howell, Ltd. (pp. 8-9), who have equal votes. Again descending, we come to Hearon, Squire & Francis, Ltd. (pp. 245 to 248), Potter & Clarke, Ltd. (pp. 154-157), and Zotos (pp. 290-291). And among others who are practically on the same level are placed Lemco (p. ii), Calox (p. 71), Standard Tablet Co. (pp. 255-257), Wand Manufacturing Co. (p. 322), Newball & Mason (pp. 59-60), A. S. Cartwright, Ltd. (p. 519), Seabury & Johnson (p. 513), H. W. Bush & Co., Ltd. (p. 39), Edwards' "Harlene" Co. (p. 52), J. H. Haywood (p. 524), Aërators, Ltd., "Prana" Sparklets (p. 411). Chuit, Naef & Co. (pp. 482-483), Wright, Layman & Umney, Ltd. (p. 41), J. & G. Miller (p. 502), T. Beecham (p. 314), Howards & Sons, Ltd. (pp. 242-243), Parke, Davis & Co. (pp. 10-13) Barclay & Sons, Ltd. Parke, Davis & Co (pp. 10-13), Barclay & Sons, Ltd. (p. 16), T. Guest & Co. (p. 427), Evans Sons Lescher & Webb, Ltd. (p. 31, etc.), R. J. Reuter (pp. 78-83), Johann Maria Farina (p. 467).

Which Advertisement do you Like Best?

This question has created a great diversity of opinion, but the majority are in favour of Allen & Hanburrs, Ltd., while a considerable number plump for Burroughs Wellcome & Co. Others prefer, in order of voting, Bernard Slack, Standard Tablet Co., Schimmel & Co., Wright, Layman & Umney, Ltd., Culox, Lemco, Christy Strong, J. H. Haywood, Seabury & Johnson, Aërators, Ltd., Barron, Harveys & Co. Fletcher, Fletcher & Co., Howards & Sons, Ltd., S. Maw. Son & Sons, Alliance Drug and Chemical Co., Hull Oil Manufacturing Co., Daisy. Ltd., Miol Manufacturing Co., Southall Bros. & Barclay, Ltd., J. Townsend & Sons, J. Woolley, Sons & Co., Ltd., Harrison & Waide Itd. Baiss Bros, & Stevenson, Ltd., Newball & Mason, and Raphael's, Ltd. When asked to

Name a Firm Not Advertising, who Should, several subscribers say they are unable to answer this, as the Diary is so comprehensive and appears to include everybody; another would like to see the names of actual makers of cold-cream pots and novel glass and china containers for packed goods. By far the bulk miss the "VINOLIA" advertisement, and among other prominent firms who are asked to advertise in the Diary are May, Roberts & Co., Scott & Bowne, Crown Perfumery Co., Boyril, Kodak, Goodall, Backhouse & Co., Dr. W. Gibbs, Ashton & Parsons, Leo & Co., and Foster, McLellan & Co. All the foregoing are extensively indicated, and among other goods which our subscribers would like to see advertised are those of the following:

Agenoria Co., Ltd. Ash, Claudius, & Sons Atkinson, J., & Co. Avery, W. T. Blake & Mackenzie Blyton Boake, Roberts & Co. Birmingham Dental Supply Bourne, Johnson & Latimer Brotherton & Co., Ltd. British Oxygen Co. British Seltzogene Co. British Syphon Co. British Xylonite Co. Bruce Green & Co. Butler & Crispe Cannon & Co., Ltd. Colthurst & Harding Colthurst (Bristol)
Colgate's soap
Cooper & Nephew
Cuxson, Gerrard & Co.
Doulton & Co., Ltd. Elliman, Sons & Co. Eno's Fruit Salt Erasmic soap Farrow's Bank Findlater & Co. Formalin Hygienic Co. Fry's chocolate Gibson, R., & Sons, Ltd. Goodwin's soaps Goodwin's soaps Gostling's vet. medicines Grant & Co. (lever-top tins) Grossmith, J. & G. Harrison, G. W. (Reading) Hockin, Wilson & Co. Jackson, W. & H.

Jergens, Andrew & Co. Johnson & Johnson Kaputine Kerfoot, T Laurance, H. Lever Bros., Ltd. Oatine Co. Odol Ogston & Tennant Owbridge, T. & W. Peps Perrier Water Price's Patent Candle Co., Ltd. Raimes & Co. Read, Holliday & Co., Ltd. Richardson, John, & Co., Ltd. Roberts & Co. Roborat Co., Ltd. Roger & Gallet Rouse Bros. Sandymount Calf Lymph Co. (Dublin) Sanatogen Seltzogene Patent Charges Settzogene Fatent Charges
Co. (St. Helens)
Storry, Smithson & Co. (Hull)
Thorley's Food
Townson & Mercer
Tyler, Hayward, & Co.
Vini Wine Co. (Leicester)
Wilkinson & Simpson
Wilkinson Madical Label Wilkinson, Medical Label Printer (Pendlebury) Wright, Munday & Co. Wright, (South Kensington)
Wulfing & Co. (London, W.C.

The Prize=winners.

Four competitors have guessed the five questions correctly, and to these we award a guinea each:

A. J. Barnes, 1 Charlemont Street, Dublin. H. Maidment, Faringdon, Berks. James S. Prior, 19 High Street, Stamford. J. Richards, 53 Knightsbridge, London, S.W.

Thirteen competitors have answered four questions correctly, and to these we award 2s. 6d. each:

 J. Babbington, 109 Egerton Street, Bishopston, Bristol.
 M. W. Chambers, 19 Burnham Street, Sherwood, Nottingham.

D. Davison, Pier Pharmacy, Cromer.
Herbert J. Farrar, Royal Berkshire Hospital, Reading.
G. T. Fernie, Kirkliston, N.B.
John Ford, 3 Thoresby Street, Sneinton.

John Ford, 5 Thoresby Street, Sneinton.
S. Gattrick, jun., Front Street, Consett.
Geo. S. Hobbis, 3 Norman Road, Canterbury.
A. Norweb, 26 Fishergate, Nottingham.
T. Postlethwaite, Southsea.
Geo. Simpson, 14 Caltman Road, Hull.
Thomas Stubley, 34 Freeman Street, Nottingham.
W. T. Symes, c/o Evans, Gadd & Co., Ltd., Exeter.

"Saying Recalled."

Card 2 of the coupon asked our readers to mention the happiest quotation in the interleaved pages of our Diary, and by a substantial majority the saying by Sir Edward Evans that

A chemist cannot have too much knowledge of his business has proved to be the most à propos. Next in order of popularity were:

"As iron sharpeneth iron, so the C. & D. cannot fail to sharpen the wits of its readers."—R. Goodwin Mumbray.

"Cultivate tast; it is a powerful lever in business."-

"Cultivate tast; it is a powerful lever in business."—
J. Rymer Young.

"Interest yourself in your work, and you will find much that is interesting."—C. F. Henry.

"Cultivate the goodwill and friendship of your colleagues in business, and be cheerful."—J. Rymer Young.

"There is far too great a tendency to look to England, to Parliament, to some society, or to somebody to do for us what we ought to do for ourselves."—A. C. Wootton.

We award 2s. 6d. each to the following nine competitors who voted for Sir Edward Evans's saying:

C. Bell, 2 Victoria Terrace, Linthorpe Road, Middlesboro.
J. F. Courtney, c/o J. T. Turner, L.P.S.I., 17 Main Street, Carrick-on-Suir.

F. R. Ellis, 146 Ashley Down Road, Bristol. Wm. Phillips, Fair View, Broad Lane, Bradmore, Wolverhampton.

hampton.
J. A. Sutcliffe, 27 King Cross Street, Halifax.
J. A. Symonds, chemist, Ipswich.
J. C. Thackray, 6 Malvern Road, Sheil Road, Liverpool.
T. T. Townley, c/o Townley, Ph.C., Keswick.
Geo. H. Wild, 34 Coniston Street, Leigh.

Tablets in Germany.

DR. C. A. VON MARTIUS has communicated a highly interesting article to the "Chemische Industrie" in regard to pharmaceutical manufacturers in Germany. He states that from 1890 to 1905 the value of pharmaceutical preparations exported increased only in the proportion of one-half of that of all other chemicals. In Great Britain, however, the position is exactly reversed, he says, the total value of pharmaceuticals compared with that of other chemicals produced having increased by one and a half. The United States and Switzerland are also included as examples, for the relative increase in the value of pharmaceutical preparations compared to the state of the relative increase in the value of pharmaceutical preparations comincrease in the value of pharmaceutical preparations compared with that of all classes of chemicals was in the former three times, in Switzerland five times as high as the ratio in Germany. He, therefore, comes to the conclusion that even in Germany. He, therefore, comes to the conclusion that even if at present these other countries are not formidable rivals to the German chemical industry, yet, under the existing circumstances in the production of pharmaceutical preparations, Germany will in time be beaten by Great Britain, Switzerland, and the United States. He attributes this state of affair soldy to the fact that Comments to the states. of affairs solely to the fact that German manufacturers, not being able to rely upon an assured and unfettered market for compressed tablets of medicines in their own country, are unable to compete abroad with foreign manufacturers, who in the meantime have conquered new markets. The German apotheker is himself to blame for this state of affairs, as he did all he could to crush the rising tablet-industry of his country, with the result that in spite of high tariffs foreign tablets still maintain their hold on the German market.

Based on these facts, Dr. von Martius comes to the conclusion that it is unfair that the advance gained by the German chemical-industry should be endangered to satisfy the selfish aims of one profession. He demands an alteration in the existing laws on tablets, not, however, to the effect that their preparation and sale should be entirely freed from control; indeed he formulates certain suggestions regarding control; indeed, he formulates certain suggestions regarding the precautions to be taken. He proposes that the manufacture of tablets containing potent preparations should only be permitted in factories under constant Governmental superpermitted in factories under constant Governmental supervision and in charge of trained pharmacists. The machines employed would have to be properly tested, the finished tablets supplied with a guarantee stamp, and exact regulations issued with regard to methods of mixing the ingredients, dosage, mode of packing, labelling, etc. To safeguard everybody concerned he proposed adopting different colorations to indicate.

indicate :

1. Tablets which may only be sold on a prescription.
2. Tablets which may only be sold by apothekers, but not necessitating a medical man's prescription.

3. Tablets which may be sold by druggists.
Dr. von Martius proposes as a concession to apothekers that the sale-prices in the prescription-tariff should be "slightly increased.

Increased.

In connection with these observations it may be noted that from January to October 1908 31,200 kilograms of secret remedies were imported into Germany; as every kilogram of this class of goods has to pay 5s. duty, this means that 7,800%. was paid in Custom dues to the Empire. During the same period 40,400 kilograms of secret remedies were exported from Germany.

Mr. O. H. Bowen, eldest son of Mr. J. W. Bowen, chemist and druggist, Criccieth, and a student of St. Bartholomew's Hospital, has obtained the diploma of the Royal Colleges.

Photographic Notes.

(By a Pharmaceutical Camerist.)

Colour Plates.

The processes on the single-plate colour-screen principle which have now appeared or are projected are: (1) The Lumière autochrome, with starch grain screen; (2) the Warner-Powrie plate, with colour lines (not yet obtainable); (3) Finlay's Thames plates, with colour dots; (4) Jougla's omnicolore plate (not obtainable in England).

Photographic Poisons.

The "British Journal of Photography" states that although mercuric chloride is mentioned in Part I. of the Schedule of the Pharmacy Act as "corrosive sublimate" cases are known where a chemist has sold the poison under its chemical name without observing the formalities of the Act. The plea put forward by the "qualified chemist" was "corrosive sublimate" is mentioned in the Schedule, but not mercury bichloride or mercuric chloride. almost incredible that this can have happened. Can any of our readers give an instance?

The Omnicolore Plate.

Another plate for taking photographs in colour is announced to have been placed on sale in France. This is the omnicolore plate invented by M. Jougla. It resembles the autochrome plate in that the colour-screen is employed as the under stratum of the sensitive film. The structure of the colour-screen is shown in "Photography" to consist of unbroken dark lines running in one direction—these form the blue-violet element-while across them are two sets of parallel lines, which are alternately red and green. The violet lines average about 230 to the inch, the green and red each about 210. The exposure is made through the back of the plate as in the autochrome, and a tinted taking screen supplied by the makers is employed. The latter is lighter in tone than that used with the autochrome. A metolhydroquinone developer containing a trace of hypo is to be employed. Development takes place for five minutes in the dark, when after a rinse in water the plate is placed in an acid-bichromate reversing bath. After two minutes in this solution daylight is admitted, and the plate is then washed for half a minute and returned for three minutes to the developing solution. Darkening takes place and three or four minutes in an acid fixing-bath is followed by half an hour's washing. The two formulæ required are here given:

Developer. Distilled water . . . Metol ... 1 dr. Sodium sulphite (anhydrous) (or crystals 3 oz.) $1\frac{1}{2}$ oz. Hydroquinone $1^{\frac{1}{2}} dr.$ Potassium carbonate ... • • • Potassium bromide ... 15 gr. ... Sodium hyposulphite (1-per-cent. solution) 3 dr. 45 m.

Dissolve in the order given above.

Reversing Solution.

Distilled water

Potassium bichromate ... 35 oz. 2 dr. 3 dr. Sulphuric acid •••

Dating Plates and Paper.

In regard to the suggestion that makers of plates and papers should date their products it is pointed out by the "British Journal of Photography" that this would hinder the sale of all but the most recently dated goods. Although plates are known to keep good for years a customer would naturally demand plates of the most recent date. If a dealer put his new supplies out of sight he would then get the reputation of only keeping old plates in stock. To protect himself the dealer would resort to the hand-to-mouth method of keeping stock, and only ordering small quantities as wanted. This is advantageous to no one, for even the user will prefer an old box at once to a new box that "will, perhaps, arrive to-morrow." Plates must be stored somewhere; if not at the dealer's, then at the manufacturer's. If at the latter the "date of issue" will soon mean very little, for it will not show how long they have been stored before issue. The difficulties are even greater in the case of plates exported abroad.

Business Hints.

"The Best Way STEP IN TO to get what you W. T. Hamp, want is to want Chemist & Druggist, what you can get." Opposite Town Hall

This quotation, used by Mr. W. S. Glyn-Jones in his speeches on the Poisons and Pharmacy Bill—"The best way to get what you want is to want what you can get "-has been reprinted in the C. & D. Diary, and is being turned to account by Mr. W. T. Hamp, chemist and druggist, Ladysmith, Natal, in a double-column advertisement in the local paper, which we reproduce in reduced facsimile.

A Chemical Competition.

MR. THOMAS POSTLETHWAITE, pharmaceutical chemical, 131 Fawcett Road, Southsea, sends us particulars of a "chemical comicality" competition which he recently the centre of a small sheet of pink paper the THOMAS POSTLETHWAITE, pharmaceutical chemist, organised. In the centre of a small sheet of pink paper the words "my chemist" were written with solution of cobalt the eye. The receiver is directed to hold the paper near the fire and watch the result. The words then appear in blue and can be made to disappear by breathing on the paper or putting it in a damp place. A prize of 2s. 6d. was offered for the best explanation of the phenomenon written by any child attending a local school. About 2,000 of the bills were picked off the counter by customers and over 100 were returned with an explanation of the colour change. Mr. Postlethwaite tells us he will willingly send a sample of the handbill to any chemist sending him a stamped addressed envelope for that purpose.

Handbills.

Mr. C. S. Ashton, chemist, Montpelier Pharmacy, 46 Dyke Road, Brighton, sends out to his customers a capitally written account of the uses and methods of employing clinical thermometers. We have previously seen handbills containing short directions for using these useful sick-room accessories, but Mr. Ashton treats the subject more fully and in a more interesting manner than usual. The bill is too long for reproduction in the C. & D., but Mr. Ashton will doubtless send a copy of these directions to any fellow-chemist who applies to him and sends a stamped addressed envelope.

The personal note is strong in several handbills issued by Mr. Frank Newby, dispensing chemist, 172 Waterloo Street, Oldham, which are sent to us by a travelling correspondent. One of these measures $7\frac{1}{2}$ in. by $4\frac{3}{4}$ in., and runs as follows:

When you want pure drugs obtain them from a Qualified Chemist. YOU RUN A RISK

in purchasing your drugs from any other source. The words "qualified chemist" can only be used by one who is specially qualified for the work of supplying the public with drugs in their purest forms. Take no excuse of either Drug Store or Cash Chemists, Ltd., but insist on the words "qualified chemist," which is the signal of safety.

Knowledge of the business in general, Knowledge of the drug, and Knowledge of the customers' requirements

are essential before the drug business can be carried on in are essential before the drug business can be carried on in safety. It is always risky to entrust your business with those who have not passed the examination of the Pharmaceutical Society of Great Britain, therefore, for safety

Bc sure you are dealing with a fully-qualified chemist.

I have a well-equipped pharmacy. Whatever you require I shall be pleased to supply you.

To this is appended Mr. Newby's name and address. From a series of bills $5\frac{1}{2}$ in. by $3\frac{1}{2}$ in., printed in violet ink, we select the following example of the wording only:

PRESCRIPTIONS

made up hurriedly are dangerous. Prescriptions with impure drugs are still more dangerous. Prescriptions made up negligently are ofttimes fatal. It is absolutely essential that a man

who makes up prescriptions should understand his business thoroughly, and should have good materials with which to work. The health and safety of that portion of the public which he serves demand it. When you bring your prescriptions here they are made up by a careful and competent qualified chemist with pure drugs. Further comment is unprecessing

The top of the bill, 2 in. deep, bears the Pharmaceutical Society's arms, and the bottom of 1 in. Mr. Newby's name and address, the whole being surmounted by a made-up border.

Trade-marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with Sir C. N. Dalton K.C.M.G., C.B., Comptroller-General of Patents, Designs, and Trade-marks, at the Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form No. 7, cost £1, obtainable through any money-cruer office. The figures in parentheses refer to the classes applied for.

(From the "Trade-marks Journal," January 20, 1909.) Device for compounds of gold and silver (1). By Johnson, Matthey & Co., Ltd., 74-81 Hatton Garden, London, E.C.

LITHOL"; for dyes (1). By Badische Anilin & Soda Fabrik, Friesenheimerstrasse, Ludwigshafen a/Rhine. 309,051. "Fos-Dak"; for goods (2). By Foster-Dack Co., 25 Mincing

Street, Toronto. 307,376.

"Varsity"; for embrocations (2 and 3). By F. B. Clarke, 101 Langham Road, Teddington. 308.497, 308,498.

"Afact"; for a disinfectant (2). By A. Milton and J. Aspinall, 34 Webb Street, Liverpool. 307,915.

Aspinall, 54 Webb Street, Liverpool. 507,915.

Standen's Extirpator and devil device (2). By B. B. Standen & Co., Ltd., 5 Cook Street, Liverpool. 308,186.

"Hall's Wine" (by order of the Board of Trade); for medicated wine (3), and wine (43). By Stephen Smith & Co., Ltd., Bow, London, E. 304,314, 307,687.

"Per-se," and label device; for an eczema-cure (3). By G. C. Clark, Shakespeare Road, Worthing. 306,011.

"Enzymatine"; for pills and tablets (3). By A. Heinemann, 60 Carlton Mansions, Portsdown Road, London, W. 307,458.

307,458.

"POUDRE ZENENTO," and device; for a drink-cure (3). By N. O. Nielsen, 76 Wardour Street, London, W. 308,249.

"ILEITA"; for a medicine (3). By Alice Shorrocks, 14 Upper George Street, London, W. 308,598.
"Kiope"; for a medicine (3). By F. Forbes, c/o Lady Henry Somerset, The Priory, Reigate. 308,819.
Fac-simile signature; for medicinal chemicals (3). By Hugo Williams & Co., 4 Upper Union Street, Dowlais. 308,900.

"Vento"; for photographic apparatus (8). By A. L. Adams, 24 Charing Cross Road, London, W.C. 308,772. "Centex" and "Portex"; for spectacle-lenses (8). By Bausch & Lomb Optical Co., 19 Thavies Inn. London, W.C. 309,011, 309,012.

"CREAM EQUIVALENT" (by order of Board of Trade); for animal-foods (42). By J. Bibby & Sons, Bixteth Street. Liverpool. 304,813.

Label devices for rice, arrowroot, semolina, etc. (42). By Wright, Crossley & Co., 17 North John Street, Liverpool, 304,897, 304,898.

Picture of Knight on Horse; for vinegar and mustard (42).

By Champion & Slee, Ltd., Church Street, London, S.E. 307,828.

"EXLENTA" and "MILENIA"; for cocoa, etc. (42). By J. Exps. & Co., Ltd., 45-60 Holland Street, London, S.E. 308,703. 308,704.

"Daphnys" (no claim to "Daphne"); for perfumery (48).
By the Crown Perfumery Co., Tynte Street, Homerton. London, N.E. 306,951.

"ZA-LONA"; for hair-preparations (48). By the Kosmo Co.. 90 Colne Road, Burnley. 307,703.
"Perfume Plums," and device; for goods (48).—By G. H. Morison, 34 Guilford Street, London, W.C. 308,655.

"MYOLA"; for goods (48). By E. B. Dive & Co., 46 Old Gravel Lane, London, E. 308,934.

Mr. F. Bromwich, for many years a member of the travelling staff of Messrs. Howards & Sons, Ltd., Stratford, near London, E., sailed on January 30 for Canada, where he will spend several months on a business visit in the interests of the firm.

Trade Report.

NOTICE TO BUYERS .- The prices given in this section are those obtained by importers or manufacturers for bulk quanti-ties or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C., January 27.

THIS report deals with the markets up to Wednesday evening. Later intelligence, which will include a full report of the auctions of first-hand drugs to be held on Thursday, will be found in our Coloured Supplement.

There is no appreciable improvement in business to be noted, the markets generally having a flat tone, with few alterations in value. Quinine has been reduced $\frac{1}{2}d$. per oz. by makers owing to the reduction of 3 per cent. in the bark unit and the desire to meet Java competition. Sicilian essential oils continue a centre of interest by reason of the plentiful and cheap offers for shipment as the result of scarcity of money in Sicily. Menthol is firmer and in more demand, and ergot has again improved in value. Aniseed, canary, and caraway seeds are all firm. Bromides are firm, and a further advance is regarded as not unlikely. Cocaine is steady. Cod-liver oil is selling at lower prices in view of the new crop. Shellac is irregular but lower.

Cablegrams.

SMYRNA, January 26:—Buvers on United States account are purchasing opium freely, and prices have advanced 3d. per lb.

New YORK, January 27:—Business in drugs is fair. Opium is 2c. higher at \$4.37 per lb. Cascara sagrada is dull at 84c. per lb. Peppermint oil is easier at \$1.45 for Wayne County in tins. Serpentary-root is firm at 46c. per lb., and podophyllum-root (mandrake) is also firm at 7c. per lb. Hydrastis (golden seal) is steady at \$1.80 per lb.

Heavy Chemicals.

Although perhaps not very heavy, there is a noticeable increase in the all-round demand in the heavy-chemical market, and the general tone is a steady one. Business is better both on home and export account, and demands against contracts have, all things being considered, been very satis-The tone of values keeps firm, and fluctuations are not of a material character.

SULPHATE OF AMMONIA.—Actual business in this branch is probably a little quieter at the moment, but inquiries seem to be sufficient to prevent stocks creeping up to any great extent. Prices are steady, and nominal quotations for forward are 2s. 6d. per ton more than prompt. Beckton 11l. 17s. 6d. to 12l., Beckton terms 11l. 10s. to 11l. 12s. 6d., London 11l. 10s. to 11l. 12s. 6d., Leith 11l. 17s. 6d., and Hull

111. 13s. 9d. to 111. 15s.

ALUMINA-PRODUCTS still continue somewhat on the quiet side, ALUMINA-PRODUCTS still continue somewhat on the quiet side, though probably both contract and miscellaneous requirements are a little better than they were. Ruling prices are on the low side but steady. Crystal alum lump 5l. 5s. to 5l. 12s. 6d., lump in tierces 5l. 10s. to 5l. 17s. 6d., and ground in bags 5l. 15s. to 6l. 2s. 6d. per ton, on rails Lancashire and Yorkshire or f.o.b. Hull, Goole, or Liverpool. Sulphate of alumina, purest qualities, and practically free of iron, ordinary strength, 4l. 12s. 6d. to 5l. 2s. 6d. per ton delivered in ordinary casks, with usual extras for similar pure quality in higher concentrations and with customary allowances for in ordinary casks, with usual extras for similar pure quality in higher concentrations and with customary allowances for bags and loose slabs. Alumino ferric 50s, to 57s. 6d. per ton, and aluminous cake 50s. to 55s. per ton, in accordance with quality, quantity, and condition. Hydrate of alumina, purest quality and high strength, Al₂O₃ 12l. 10s. to 13l. 10s. per ton in large casks, free on rails. Special pulp hydrate of alumina 15s. to 17s. per cwt. c.i.f. Special pulp quality, dried and in lumps, 37s. 6d. to 40s. per cwt. c.i.f., and ground 33s. to 40s. 6d. per cwt. c.i.f. Aluminate of soda, purest quality and high strength Al₂O₃ 32s. 6d. to 35s. per cwt. Carbonate of alumina 35s. to 37s. 6d. per cwt. alumina 35s. to 37s. 6d. per cwt.

Manchester Chemical-market.

Values of heavy chemicals are well maintained, but the volume of business is somewhat smaller owing to quiet demand locally. For caustic soda quotations are 9l. 17s. 6d. to 10l. for 70 to 72 per cent., 10l. 12s. 6d. to 10l. 15s. for 76 to 77 per cent., and 10l. 15s. to 10l. 17s. 6d. for 77 to 78 per cent. Liquid 70° Tw., 3l. 10s. 6d. to 3l. 12s. 6d.; 90° Tw., 4l. 10s. 6d. to 4l. 12s. 6d., all on rails, odd lots charged extra. Caustic potash, electrolytic, 50° Bé liquid, 11l. 15s., solid, 88 to 92 per cent., 84 to 86 per cent., or 78 to 82 per cent., are quoted specially on application here. There has been a better inquiry for Caucasian carbonate of potash at 17l. to 17l. 5s., ex store, and 16l. 10s. per ton for shipping quantities. Owing to the uncertainty connected with the raw metal, and in face of declining market, sulphate of copper again rules about Manchester, January 26. of declining market, sulphate of copper again rules about 10s. per ton lower on the week. Ordinary rates are 20% to 20% 10s. per ton, best brands, delivered here. There is only a small business passing in crude glycerin on spot, and the return business passing in crude giverin on spot, and full rates, say, 65l. 10s. to 67l. per ton, in tins and cases according to quantity. We hear of no particular change in cream of tartar, but acids rule quiet, with citric in buyers' favour. It is evident that the higher prices have checked demand. There is more demand for prussiate of soda, which is fractionally dearer at $3 \frac{1}{6}d$. Acetate of soda is quiet at 15l. 15s. per ton c.i.f. Coal-tar products, with the exception of sulper ton C.1.1. Coal-tar products, with the exception of sulphate of ammonia, favour buyers. Farinas are dearer for spot supplies. Superior Dutch is quoted 11l., and superior German 11l. 15s. to 12l. net, ex store Manchester. American cotton-seed soap is steady. There is more doing in paraffinwax, 118 to 120° fully refined in bags 2l+ld. ex store; American, 120 to 125°, snow-white scale (resale), $2\frac{s}{3}d$.; yellow, 124° to 126°, $2\frac{s}{5}d$. c.i.f. U.K. ports, all net cash.

American Peppermint Oil.

Mr. F. M. Rudd, of Bronson, Michigan, writing to his London agents, Messrs. R. W. Greeff & Co., with regard to American peppermint oil, states that there are signs of a better domand, and encouragement for higher prices for peppermint are more apparent since the close of the holidays; with increase in manufacturing, which usually starts in January, the small stocks in sight should soon show marked decreases. The abnormal quantity exported has been at the expense of not over large stocks from this season's production, and this fact will appear more plainly as the season progresses. There are few holders of peppermint in the country, and second-hand supplies are also light for this season of the year. The price, in the meantime, has scarcely moved from the rut into which it had apparently fallen months ago, but there is nothing discernible that could work for lower prices, and everything in the way of change must necessarily be toward a higher range of values. The winter season so far has not been favourable for root-production, and as the drought late in the fall did not give the plant its customary strength to withstand an open winter it is unlikely that the showing in the spring will be anything but a poor one. We think peppermint oil at present prices will prove a profitable purchase. days; with increase in manufacturing, which usually starts prove a profitable purchase.

ACID, CITRIC.—There is practically no business passing at the moment, and buyers and sellers are somewhat apart in their ideas of value. The makers quote English at 1s. 9d. nominally; second-hands offer at 1s. 8d., and foreign is quoted 1s. 7d. to 1s. $7\frac{1}{2}d$.

ACID, TARTARIC, is steady at $10\frac{1}{4}d$. for foreign and $10\frac{3}{4}d$. to 11d. for English.

Aniseed.—Russian is firm at 18s. 6d. to 19s. per cwt. on

Bromides.—The balance of opinion is still towards an advance, makers being out of the market so far as forward business is concerned, the price for minimum lots still being 104d. for potassium. The recent good demand at the advance appears to have depleted the second-hand stocks, these being practically at makers' prices.

Buchu.—Re-sales of cheap auction lots of a fortnight ago have been made at $10\frac{1}{2}d$. per lb.; 12 bales were offered at auction on Thursday. The Norman has brought 39 bales from Cape Town.

CANARY-SEED .- A fair business has been done at firm rates, Turkish at 33s. and Morocco at 34s. per quarter on

CARAWAY-SEED is firm at the recent advance; good Dutch is quoted 41s. to 42s. per cwt.

CARDAMOMS.—The exports from Ceylon from January 1 to December 31, 1908, were 665,217 lb., against 765,470 lb. in 1907, or 100,253 lb. less; exports in 1906 were 685,256 lb., and in 1905 829,276 lb. The principal destinations were: India 313,854 lb., U.K. 206,740 lb., Germany 60,288 lb., U.S.A. being credited with only 7,581 lb. direct. The report of the London auctions will be found in our Coloured

CINCHONA.—The exports from Ceylon for the year 1908 amounted to 168,814 lb., as compared with 232,259 lb. in 1907, or 64,075 lb. less; exports in 1906 were 283,524 lb.,

and in 1905 171,485 lb.

Cocaine continues quiet with prices somewhat irregular according to idea of holder, but with crude still a very firm market, not much importance is attached to the easier feeling reported. The makers quote hydrochloride at from 8s. 3d. to 8s. 6d. per oz., but 8s. will readily buy a good brand from second-hands.

COPPER SULPHATE has declined to 19l. 17s, 6d. in Liverpool for prompt delivery, and February-April to 20l. 5s.

per ton.

CORIANDER-SEED is unchanged in price; fair Morocco is offering at 11s. 6d. per cwt., common at 10s. 6d. to 11s.; Russian at 14s.; and English at 19s. per cwt.

CUMIN-SEED is steady but slow of sale at 40s. to 45s. per

cwt., according to quality, for Morocco and Malta. ERGOT is again firmer, and for new crop Spanish busi-

ness is said to have been done at 1s. 6d.

FENUGREEK-SEED is in little demand, and the price is unaltered at 9s. to 9s. 6d. per cwt. for Morocco, according to quantity.

GAMBIER.—Retail sales of cubes have been made at 34s.

on the spot.

Gentian.—The Soto has brought 119 bags from Spain. For shipment the high prices of 20s. to 22s. 6d. c.i.f. are quoted, but on the spot there are fair quantities available

about 21s. net.

GLYCERIN.—The possibility of a further advance in double-distilled is being discussed in several quarters owing to the fact that refiners are unable to keep up their deliveries. On the other hand, purchasers are advised to act cautiously at the present dangerously high level of values as the output of crude glycerin has been stimulated by the recent famine and remunerative prices. It is also said that several thousand tons which were absorbed by the largest maker of dynamite at the time of the war-scare in the Near East may yet be available for refiners, so that the present position is somewhat artificial.

Lemon Juice.—English raw is now being offered more

freely at 1s. 6d. per gal.

Lime Juice is easier, fair pale raw West Indian offering privately at 1s. 2½d. per gal.; 12 packages were offered at auction on Thursday.

LINSEED is firm at 47s. 6d. to 52s. per quarter for good to

fine quality

LITHIA, CARBONATE.—The present quotations of from 1s. 11d. to 2s. per lb. as to quantity are looked upon as being very low, and as there are practically only two makers left it would not be surprising if eventually some arrangements were come to, as was the case with bromides. The American makers are not so eager to sell, and are pursuing a waiting policy.

MENTHOL is firmer with spot sales of Kobayashi at 7s. 1d., and it is said there is now practically nothing available under 7s. 3d.; for shipment 7s. 3d. c.i.f. is

quoted.

Nux Vomica.—All the cheap lots appear to have been cleared, and holders are asking the higher figure of

12s. 6d. for fair quality.

OIL, BERGAMOT, continues to be offered at very irregular prices, values on the spot being from 32s. 6d. to 35s. per lb. For shipment up to July prices also vary con-

siderably from 12s. 6d. to 18s. being quoted.

OIL, CITRONELLA.—Ceylon maintains its popularity, judging by the exports from that island, which in 1908 were 1,276.965 lb., as compared with 1,230,159 lb. in 1907, 1,107,655 lb. in 1906, and 1,282,471 lb. in 1905. The U.K. received 603,896 lb., the U.S.A. 515,520 lb., and Germany 61,930 lb. Ceylon on the spot is quoted at 1s. $2\frac{1}{2}d$. and to arrive at 1s. $1\frac{1}{2}d$. per lb. c.i.f.

OIL, COD-LIVER.—In view of the new crop, holders on the spot are anxious to make progress, sales having been found in our Coloured Supplement.

made at 60s. per barrel spot for good brands; speculative offers of new oil are already being made at 64s. to 65s. c.i.f.

OIL, EUCALYPTUS.—Fifty cases have arrived per Suffolk from Melbourne; 27 cases will be offered in sale to-morrow. OIL, LIME, is slightly easier, fair West Indian offering at 2s. $7\frac{1}{2}d$. per lb.

OIL, LEMON.—The market continues to be flooded with cheap offers for shipment, owing to the fact that Palermo and Catania shippers are badly in want of ready money to conduct their business; but when affairs again become normal it is anticipated that we shall see much higher prices than those now prevailing. As it is, offers are plentiful at between 4s. 6d. and 5s. c.i.f. for February-April and Februaryruary-July shipment, also at 4s. 9d. to 6s. c.i.f. for prompt shipment; but even at these prices buyers are not keen; spot prices are nominal at between 6s. 6d. and 7s. 6d. per lb., but there is little doing. It is said the Italian Government has given a period of six months' grace on both debts and contracts. Practically no lemon oil has arrived from Messina so far this week, but several ships are due in a few days; large arrivals of the fresh fruit have taken place from Palermo and Italy this week.

OIL, PEPPERMINT, is quiet, although there are no good American brands in tins to be had under 6s. 3d., and for H.G.H. from 8s. 11d. to 9s. is quoted, the outside

price being for single case lots.

OPIUM.—The London market remains unaltered in spite of the cables from Smyrna announcing a 3d. advance; on the spot good Smyrna druggists is quoted at 14s. 6d. per lb. Advices from Persia continue firm, and in some instances agents have been instructed to advance their prices by 6d. per lb.; small spot sales have been made at from

14s. 3d. to 14s. 9d. as to test.

A Smyrna correspondent writes on January 16 that the week was active, not so much for the quantities sold as for the number of purchasers simultaneously on the market. The business was effected quietly, as holders in view of the favour-able reports regarding the next crop did not wish to restrict business. The sales are as follows: Seventeen cases new Yerli t.q. at the equivalent of 13s. 6d. to 14s. 2d., two cases extra Karahissar t.q. at 13s., six cases ditto at 12s. 6d., and twenty-two cases new Karahissar at 11s. 5d. per lb. c.i.f. European ports. Market closes firm with buyers. The twenty-two cases new Karahissar t.q. are only Adette's, and it is therefore probable that they will be rejected at the inspection, and the necessary replacement will probably cause inspection, and the necessary replacement will probably cause a recovery. The price of 10-per-cent. opium is about 31.50f. or 25.25m. c.i.f.—A Smyrna correspondent writes on January 16 that the sales for the week amount to forty-seven cases for export. About half were of rich qualities which brought from 13s. 9d. to 14s. 4d. c.i.f., and the other half were current qualities for England at 11s. 8d. c.i.f. European ports. The fall in inferior qualities has not influenced choice qualities, which are in demand and almost exhausted. The market will probably remain steady until the new crop, and fluctuawill probably remain steady until the new crop, and fluctua-tions will hardly be perceptible in view of the stock, which will barely suffice.

Podophyllum Root.—Reports from primary markets indicate a firmer tone at 34s. c.i.f. to arrive, and on the

spot 37s. 6d. is quoted.

Quining.—A belated reduction of $\frac{1}{2}d$. per oz. was announced on Tuesday, the German makers now quoting sulphate at 7_2d . per oz. in bulk, and Howards have also lowered their prices to $8_2^{\perp}d$.; the salts in a few instances have also been reduced. The competition with Java quinine and the 3 per cent. reduction in bark are responsible for the reduction, which, however, does not yet appear to have stimulated business, although the fact that new make and the salts can be had at advantageous prices from the makers is argued as a reason. The second-hand market appears indifferent, German brands being probably obtainable at $7\frac{1}{4}d$.; last week 15,000 oz. of Java make were sold at $6\frac{3}{4}d$. landed terms to arrive, and on the spot sales of that make have been made at $6\frac{7}{5}d$.—It may be remembered that in January 1897 and September-November 1906, German makers quoted $7\frac{1}{2}d$. for sulphate, so the present price is not a record one.

SERPENTARY is firm at 1s. $11\frac{1}{2}d$. per lb. net on the spot, or

c.i.f. to arrive.

A full report of the Drug Auctions will be

CHERTAIN CO.

TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. Publication of letters does not imply our agreement with the arguments or approval of the statements therein. If queries are submitted, each should be written on a separate piece of paper. We do not reply to areries by post, and can only answer on subjects presumably of interest to our readers generally. Letters received after the early posts on Wednesday cannot as a rule be dealt with in the current weel's issue.

BUSINESS INFORMATION.—We have very full 1 cords of the makers or agents for articles and products connected with the chemical and drug trades, and supply information respecting them by post to inquirers. Inquiries regarding any articles which cannot be traced in this manner are inserted under "Information Wanted."

Chemists as Territorials.

SIR,—In reference to Major Freeman's letter respecting chemists and the Territorials, there are numerous chemists, including myself, patriotic enough to serve their country in time of need; but there is another side to the question. Major Freeman admits that for hospital-work it is essential to have qualified dispensers. Well, then, what are we offered for our bit of parchment from Bloomsbury Square with services? "Rapid promotion to the rank of sergeant." Surely the War Office is getting over-generous. No, sir, I do not think any sane chemist is going to give his professional services as a private and for a beggarly wage. If Major Freeman cannot give chemists a better inducement than the present one, then I say, with all due respect to him: "Paddle your own canoe, and let the War Office teach their own dispensers." On the other hand, offer a commission and a wage (while in camp) in accord with a chemist's position in civilian life, and I think you will have no cause to grumble at the scarcity of qualified dispensers who wish to improve their physique.

Gorseinon, January 23.

Yours sincerely, W. T. Thomas.

Appreciations.

"The Diary seems to be better than ever."—W. A. M. (1/19.)

"The C. & D. . . . Ever one's friend in time of need."

M. P. S. (168/40.)
"Manual"

"Many thanks for *Diary*. What a contrast with the first. Anyone who has a copy of the earliest edition can easily spend a pleasant hour comparing the two." (173/13.)

"Chemists may come and chemists may go, but the grand C. & D. Diary goes on, like Tennyson's brook, for ever, and, like a brook, it is always getting broader (in its aims and wealth of information). The chemists who invest in the C. & D. get far more back than they pay. I am even inclined to go farther, and say that many a chemist owes his success in life to the many stimulating articles which have appeared during the last twenty years and more that I can speak of from personal experience. To me the C. & D. seems to do the thinking for the busy chemist, and puts him on the best methods of how to increase his business." (14/96.)

"Living In."

SIR,—My experience of the above is not very recent, but on the whole is rather in its favour. There can be little question that the proprietor comes best out of the system so far as actual money outlay is concerned. Chemists' assistants, even when qualified by examination, are, after all, little more than probationers; they lack experience, and contribute their labour, but not much beyond that, for they are paid a stipend and receive board and lodging which is good, bad, or indifferent—I have experienced all three varieties. I should not have written on the subject but for the fact that many years ago I took part in what was, to all intents and purposes, "a strike"; the men's reason for which was the paltry food served up to us. It

was an historic pharmacy—I need not say where. There were five of us: manager, senior, one assistant at the counter, and two dispensers, of whom I was one. The pay was small, and we were all qualified; the honour of working for such a firm was considered (by the firm) as equivalent to so much specie annually. The work was stiff and the food abominable. I have had wide experience, but I never met with such a shoal of prescriptions as used to come in the early morning and throughout the day. We assistants naturally discussed the matter of the food, and discovered that the firm allowed the housekeeper 15s. per head for our board-a sufficient sum probably, but there was no doubt we did not get the half of it. Eventually the senior was deputed to interview the governor (the manager declining to interfere). Our protest was received with something approaching contumely, and I think the incident is remarkable. Here we had on the one side four qualified chemists of good education and position approaching another chemist -socially no better than ourselves-upon a matter of importance, and we were treated with absolute and lordly in-difference! There was no reason why any of us should continue to put up with this treatment, so it happened that certain "notices to quit" were received by the high and mighty one. After a fortnight or so there were signs of weakening, and I, for one, was invited to stay on. upshot of the business, however, was that when I took my departure on a Saturday afternoon, the manager and senior only were left to carry on until reinforcements arrived. We had complained about the food, and also on the ground of being shorthanded; the result to our successors was that there was a clean sweep made of the housekeeper and her minions and the general staff arrangements altered, while from what I heard the place became one worth living in. My next berth was at double the money-70l. in place of 35l.; and at that establishment we fared sumptuously—late dinner, and often a bottle of wine after it! This was in the provinces, but I found the business so deadly dull that I was soon back in London. There is a happy medium, which I found. The fact is, where the work is stiff and exacting the bodily comforts cannot be dispensed with. Anyway, this is a matter which assistants can rectify for themselves—I know of no reason whatever why a qualified man need stay in any place where his com-Yours, etc., forts are not considered.

British v. American.

EXPERIENTIA DOCET. (183/8.)

SIR,—The unity of the Empire is a much-talked-of matter of late, and since the last Premiers' Conference in London it shows signs of development. Commissioners have been appointed to go into the likelihood of increasing the home trade, but it requires much more force behind the movement. The English producer in the chemical line allows his ideas to fall very short of the demands of the Empire, and it is just about time that he educated himself up to the fact that he is very out of date and is not the important man that he himself thinks he is. We in the Colonies know perfectly well that he is thorough in his quality and financial respect, but this never worries a man with cash. What the man in the Colonies wants and what he is offered are two different things, with the result that he is absolutely forced to go to the foreign market to get his demands satisfied. I was struck this week when looking over two sets of samples-one English and the other American—with the vast difference in the various styles of get-up of packed goods. The English labels looked as if they had been in the family for years, and one had to take them in his hands to find out what stuff was contained underneath. They were put up in the same manner as they were years ago, and there was only an assortment of three or four different kinds of wrappers for each article to choose from-that is, if many chemists in one city dealt from this firm, they will be all selling exactly the same goods. On the other hand, the American labels were very nicely designed and printed, and in nearly every case the contents of each package looked out at you in bold type. The style was always very neat and novel, and in many instances would ensure sales. Besides this each good selling line would have perhaps twenty wrappers to choose from, and no two men in the same town would be given the same wrapper. The firm also stated that they would supply chemists with goods whose label contains

the chemist's fancy name, which means that the same line

might be called by a hundred different names.

Now we will look at the result brought by pleasing purchasers, and I can say without hesitation that two-thirds of the chemists in this city alone are supplied with the same sarsaparilla put up under different wrappers. Nearly all the packed pills sold throughout Australasia are prepared in America. This can be said of nearly all packed goods with the exception of B.P. lines, such as liquorice-powder, chemical food, etc., which do not require anything artistic. Another point I should like to impress upon the English makers, and that is that when certain lines have been first introduced to this market they have been put up in America en the order of the Colonial. Step by step the Colonial is educated to look to America to supply his wants, and the result is that the American thinks that the Colonial leans more on him than on the home country, and a glance at the American papers concerning the "Fleet visit" will bear out my contention. Of course this is a wrong impression, for I believe that at heart the Colonial is the most ardent supporter the Mother Country possesses; but unfortunately her business men have got into an extremely conservative mood, and it is like moving a rock to shift them. It seems extraordinary to us in the South to find how difficult it is to get firms, even when possessing their own printing-plant and carton-makers, to push their own goods. The English chemical-packer is not singular in this respect, because it applies to nearly all trades, and is also very noticable with agricultural implements. An Empire like ours should be able to supply every want within it, and the working man should never be idle; but the true Englishman should remember that it requires deeds and actions more than hot air, and I should like to see some of these old English firms appoint a Colonial on their home staff and take his advice on matters affecting the Colonies. Wellington, N.Z. Yours faithfully,

LEONARD MCKENZIE. [Our correspondent's full address is Opera House Pharmacy, Manners Street, Wellington, N.Z. No doubt a few home houses can, by sending him samples, convince him that the Old Country is not the back number that he seems to think.-

Editor C. & D.]

Pharmaceutical Affairs in Ireland.

SIR,—Having been one of the recent deputation on behalf of the Irish limited companies to London in connection with the Poisons and Pharmacy Bill, I beg to point out that the report of the Council-meeting as given in your issue of January 16 is in some respects unfair and misleading. The President is reported to have stated that

as some of the companies that opposed it were members of the Drug Companies' Association, they were probably aware of what was going on.

This is not so, the first intimation that they had being from the Society's representative then in London, received on December 5 and asking for reply by wire. Further, this notice was only received by a few of the companies, two or three important companies here not having received any notice whatever. This circular, signed by Mr. John Smith, President, contains these words:

You will see there is nothing in the proposed clause which would in any way interfere with existing rights and will place the companies in the same position as individuals.

Several of the companies naturally took this to mean that the old-standing grievance in regard to the certificates of apprentices or assistants was about to be redressed, and

they were therefore willing to support the Bill.

To make sure in the matter the company with which I am connected (William Dobbin & Co., Ltd.) wired Mr. Smith, but the prompt reply was "Apprentice question impossible in present Bill," thus apparently entirely contradicting the words just quoted. Mr. Herbert Samuel, M.P., Under-Secretary for Home Affairs, who had charge of the Bill on behalf of the Government, was so favourable to company certificates being accepted that he gave instructions for a draft clause to be prepared, which was worded as follows, but was rejected by the Society representatives :

And for the purposes of these Acts and any regulations thereunder, service as apprentice or assistant to a body corporate carrying on business in accordance with the requirements of this sub-section shall be deemed to be service as an apprentice or assistant to an individual lawfully carrying on the like business.

This does not correspond very well with the position as put by the President. Mr. Smith says there is "no combination among the companies in Ireland." Allow me to assure him he will not have this remark to make for very much longer. The companies in Ireland are now taking up the matter vigorously, and are determined that at length their rights in regard to the certificates of their qualified men to apprentices and assistants shall be recognised. They only want the same privilege which has been enjoyed by the English companies for many years past. It is very well known over here that since the decision of the Queen's Bench in Cleland v. Pharmaceutical Society of Ireland the practice of the Council has not been uniform in accepting or rejecting apprentices' certificates from companies. Evidently "kissing goes by favour." This requires explanation, which probably the President will be kind enough to supply. The Irish companies have too long refrained from pressing this matter, but the day is now at hand when the Pharmaceutical Society of Ireland must meet the just demands of the companies as the English Society has done. as the range...
Yours faithfully,
W. J. Busby.

Belfast, January 20.

Dispensing by Druggists in Ireland.

SIR,—What training have druggists in Ireland had for the compounding of prescriptions? The writer knows of an instance where a "druggist" sent to his neighbour pharmacist for natrium bicarbonat. 5iv., not knowing that he was asking for common baking-soda. The prescription was afterwards brought to the pharmacist's place with the druggist's label on the bottle. Another druggist within the last month dispensed 2 oz. of solution of mercuric chloride in a clear glass 2-oz. phial with directions written on a plain slip. The bottle as it was dispensed is before me as I write this. If druggists want to be allowed to compound pre-scriptions, let them qualify, and they will be independent of everybody so far as compounding is concerned.

PHARMACIST. (189/70.)

The Use of the Word "Pharmacy."

SIR,-In order to ascertain whether or no any importance might be attached to the words supposedly used by the Under Secretary for Home Affairs in committee on the Poisons and Pharmacy Bill in December last, a friend of mine wrote to the Home Secretary (Mr. Gladstone) a fortnight ago, requesting him to make a definite statement whether, taking the now famous reported words as a basis to work upon, companies of unregistered persons would not be allowed to use the word "pharmacy" over their shops after April 1, 1909. This letter was referred to the Privy Council, and you will see by Mr. Almeric FitzRoy's reply that the attitude of the Lord President of the Privy Council is strictly non-committal in this matter, and as for the Home Secretary he declines to be bothered about it at all. As "Minor" men and women have always had some claim to the use of the title "pharmacist," in view of the wording of Section 1 of the Pharmacy Act, 1868, persons who hold the Minor qualification and those who have passed the Modified examination have received no compensation at all now that companies have legally made good their claim to the use of the title "chemist and druggist," and Major men and women have rescued their 1852 titles from the clutches of the companies. In this connection I have not, of course, overlooked the fact that some persons have held that Section 15 of the 1868 Act necessarily governs the sections which precede it. The pharmaceutical authorities have never attempted to enforce such a reading, knowing full well that all registered chemists had every right to style themselves "pharmacists." The free use of the word "pharmacy" by unregistered companies hits "Major," "Minor," and "Modified" men and women alike, so that all have a common reason for a grievance. Why not put the interpretation of Section 12 of the 1852 Act to the test? What do our barrister pharmacists say? Yours etc.,

Whitechapel, E., January 22.

G. E. OLIVER.

[The reply to which our correspondent refers is as follows:

Privy Council Office. January 18, 1909.

SIR,—In acknowledging the receipt of your letter of the 8th instant, addressed to the Home Secretary, I am directed by

the Lord President of the Council to state that he is unable to express any opinion on the legal question which you have raised.

I am, Sir,
Your obedient servant,
A. W. Firzzor.

Our correspondent is wrong in stating that the Pharmaceutical Society did not proceed against chemists and druggists using the title "pharmacist." It has done so repeatedly.—Ed. the title C. & D.

SIR,—Such contradictory statements are being made that perhaps you will permit me to offer a few observations with a view to demonstrating the exact position respecting the title "pharmacist." In November 1908 Mr. Idris conveyed through Mr. Philip Snowden an intimation that he desired an interview with the writer. Naturally, and especially as this was the first civil treatment we had received in this controversy, I offered to wait upon him at the House of Commons on the first opportunity (December 1, 1908), and craved permission to ask a few colleagues to accompany me. So a long interview took place with Mr. Idris and Mr. Snowden. Along with myself were Mr. Hobbs, Alderman Campkin, and Mr. Hagon. And this was the situation. Mr. Snowden had expressed his readiness to block the Bill; Mr. Idris frankly stated that "by holding up his little finger, as it were, Mr. Snowden can kill the Bill." On the other hand, we had already recognised that the statutory titles were given up for ever in any case. In exactly ten years' time, as I observed to Mr. Idris, who proved it on the Joint Select Committee (see the Report, p. 31), Mr. Jesse Boot had attacked, taken, and appropriated the titles, which previously he had simply jeered at while insulting the owners. What-ever we did, titles were gone! The Bill professed to give chemists the new title "pharmacist," and during this interview we found a means of perhaps being useful in substantiating and making real this new title. Our contention was that if "pharmacy" and "pharmacist" were not convertible terms meaning the same thing, then the new Bill was a mere pretence, without use except to blind chemists to a scandalous surrender of all their rights and privileges. No endeavour was being made towards definition. Mr. Idris said that he was afraid we could not make good our contention, but offered to get Mr. Snowden on the Standing Committee which was being appointed, where, and only where, modifications could be made. Here just let me say Mr. Snowden was appointed some years ago on the Commission re Canals and Waterways, with Lord Shuttleworth as Chairman. I happen to know that it is the opinion of high authority that Philip Snowden could get more out of witnesses by a few leading questions than others were able to elicit, and hence our confidence in his capacity. Well, we thought we must accept the opportunity, and Mr. Snowden was appointed, with the special purpose, if possible, of making good for ever the title "pharmacist" for the individual as a professional designation. Can there be any doubt, therefore, as to the purport of the question addressed to Mr. Samuel and the significance of the answer? The use of the word "pharmacy" will be use of title; otherwise, as stated by Mr. Herbert Samuel, who was fully aware of the meaning and intention of the question, the title fails in an essential respect. I wish to acknowledge my personal obligation to Mr. Snowden for his invariable courtesy and thoughtful-Business with him has been a real pleasure. He studied the question, and his interest, his keen judgment, and knowledge have borne fruit, first on the deputation to Lord Crewe, and vitally on the Standing Committee. His services have not been shouted from the housetops, but I venture to say that the profession has received service from Philip Snowden, M.P., which should be more fully appreciated.

Yours faithfully, R. Lord Gifford. Blackburn, January 26.

[Mr. Lord Gifford also sends us a letter regarding the remarks about him made by Mr. Pentney at the meeting of the London Chemists' Association, in the course of which he

I have often observed that to be ignorant of one's ignorance is most useful in business and in public life. Certainly the knowledge of my ignorance is a great source of trouble to me, and interferes with my confidence. Probably Mr. Pentney is right, but I can only plead that I do my best. I never have missed a committee-meeting of the Council. I have wrestled in these com-

mittees in perhaps a mistaken idea of righteousness, and there is no one who can say that I have ever taken a narrow or selfish view. I have suffered much in doing this, but have never allowed that to influence or bias me in the slightest.

The rest is delightfully sarcastic comment on the part Mr. Pentney played in recent lobbying.—ED. C. & D.]

Our Title.

SIR,—It seems to me that the sooner we arrive at the best means of impressing on the public that the title of "pharmacist "can only be used by qualified chemists, the better. As one means to that end I would suggest that in all our windows we should have an attractive notice announcing the fact. This could be printed, and we could have it neatly framed and put in a conspicuous place. How would a notice worded something after this style do?

Parliament having at length decided it to be necessary that the "man in the street" and the general public should know the difference between an unqualified man or a drugstore trading as a company and a qualified chemist, has enacted that whereas the former may call themselves chemists, the qualified chemist only can call himself phar-

Following this would of course come the pharmacist's name, title, and address. I have no doubt someone will improve on this, but in any case, I think stress ought to be laid on the fact that Parliament has distinctly pointed out the difference, in that it has given us a title that no one else can use. Whatever sort of notice is decided on, it would be well to embody it on a counter bill, and have them circulated in Faithfully yours, J. E. EASTMAN. our own neighbourhood.

Forest Lane, Stratford.

The Power of the Qualified. SIR,-Now that the Poisons and Pharmacy Bill, 1908, has become law, and will come into force from April 1, 1909, the qualified assistants, if they choose, have the trump card. They can see to it that none but the "pharmacist" shall call his shop "the pharmacy." They have now more power and influence over this vexed question than even the Society. You will ask, How? I am not a revolutionist, but neither am I a "peace-at-any-price man." and would urge them not to allow this prospect to be continually before us like a "bogey" until someone urges Parliament that "vested interests" ought not to be interfered with, nor ought "the pharmacist to monopolise" the name. Stop all this nonsense. Combine in earnest at once, and be prepared to send in a big petition to the Society that "pharmacist" shall for ever embrace the name of the shop as the pharmacy. If the Government will not listen to the terms of the petition, there is one other duty to perform, which I would urge only as our life and wellbeing would be at stake, and that is: As the title "pharmacist" is of no value without the limit "pharmacy, they again petition Parliament, and if the refusal is still given, the whole body of qualified assistants throughout the country, from a certain date, will cease performing their responsible duties to the public and their employers—in other words. "strike"—until they get justice. I feel certain employers would show practical sympathy, and I believe the Government would be bound to give way. Divisional secretaries would, I believe, help by securing signatures to the petition in their districts, and the result. I cannot help thinking, would be, on this question, permanent peace.

Another point which is of immense importance to all qualified men—the menace of drug-stores and the difficulty experienced in proving sales of poisons. Wholesale chemists are exempt from the operations of the Poisons and Pharmacy Act [Not altogether.—ED. C. & D.], but surely it is quite understood they only supply the medical faculty, public institutions, governing authorities, and qualified chemists. One would like to be quite sure they go no further. Reports, apparently only too well founded. are to the effect that unqualified drug stores are supplied with scheduled poisons. If so, how is it allowed? If I go to a wholesale house and am not known, I presume they refuse to let me have a poison, or I believe they place themselves within the law; but if I send an order by post, perhaps with my present name and address on, it is supplied without question. Now, legally the unqualified drugstore keeper is only one of the public; and, if so, then I contend a wholesale house is breaking faith with the

qualified chemists and doctors, whose interests are identical with ours. I feel convinced that if wholesale houses would give an undertaking that they do not and will not supply the unqualified, or were compelled not to supply, our trouble with them would cease, the despised Poison Act would become a valuable asset, and the assistants' positions would be fully recognised. I shall be glad to learn what assistants have to say about settling this serious question, as no time should be lost.

Yours faithfully,

DIVISIONAL SECRETARY. (188/38.)

Unqualified Managers.

SIR,—I note in this week's issue the remarks of "R. F. T. S." re unqualified managers, and I beg to offer the following suggestions:

1. An unregistered man has no right to be a proprietor or manager of a shop where poisons are sold and prescriptions dispensed. These should be reserved for the examined man.

2. Unregistered men having served a bona-fide apprenticeship to registered men should have a title given them. Why not allow them, after completing their apprenticeship, the same as companies—viz., chemist and druggist?

ship, the same as companies—viz., chemist and druggist?

3. Chemists must in many cases have unqualified assistants, as they cannot afford to pay qualified men. Then why not form a register of bona-fide apprenticed men, take note of their employer's business address, license them as assistants to work only in chemists' shops which are under qualified management, and ensure no petty prosecutions of such men for selling scheduled poisons during the qualified. such men for selling scheduled poisons during the qualified

man's absence for meals, etc.?

3. The promotion of errand-boys and porters to the counter should be strictly prohibited; it is as unjust to a man who has served a bona-fide apprenticeship to fill his berth with an ignoramus whose capacities are limited to selling only as it is to put in unqualified managers where a

qualified man should be.

4. The whole trade should be united for this purpose. Let the qualified man be paid for his expense and trouble, and let the apprenticed man work with him, but not usurp his place.

Yours faithfully, SHEEP-DIP. (188/27.)

A Petition to President Young. The President urged them to take their heads out of the sand.

SIR, -Four or five years since the Stoke Association refused to elect a Boots manager; and about the same time I suggested that local Associations should hold examinations to induce self-teaching of apprentices: at which suggestion Mr. E. Jones (who is now President of the Association) was much amused, and treated it as impossible. Yet Lancashire is preparing to teach the apprentices, and soon I hope to see at local Associations

"Students lecturing to students" (Sir Wm. Ramsay).

"Yearly examination of the apprentices' note-book as in Germany" (R. A. Robinson, junr.).

But before that time comes let us show the President that some of us have our heads out of the sand-in fact, have had them out some time; let us show him we know clearly what we want in order to make a living honestly and squarely and legally; let us put it before him shortly and neatly in a unique form:

PETITION TO THE PRESIDENT.

Sir,—We urge you to hasten with the new by-laws: and to specially deal with the following matters vitally affecting the interests of the bulk of the retail trade, and we each affix our slip label as signature:

1. Preliminary Examination.—Take schoolmaster's certificate of efficiency at age fifteen or sixteen, with an essay or

other sample of class examination work (Latin included).

2. Minor Examination.—Try to arrange (with Privy Council if need be) that first part of examination passed at age of eighteen or nineteen be a licence to sell poisons and to take temporary charge in the absence of the master.

3. Modified Examination.—Revive it; make it suit the needs of 1909 (as suggested by "East Anglian's" letter in C. & D.) on the lines of the Durham M.D. Distinguish between long service assistants or drug store courses who

between long-service assistants or drug-store owners who have served their time properly and the mere ambitious porters, who have slunk in the back way and have neither the education or the intelligence necessary, nor any desire to

If the C. & D. office staff will cut out the printed part and affix it to a sheet of parchment; and if every chemist who agrees will send a plain slip-label loose in an envelope to the C. & D., which label can be easily and quickly affixed to the pages of parchment, we will have a simple and effective petition within a week. We might write on each label thus (in black ink):

I agree with the Petition. JOHN JONES. JOHN JONES, Chemist, P. TVILLA.

and to facilitate the work at the C. d D. office mark the envelope so:

Jay Mack Petitian.

Editor C. & D., 42 Cannon Street, London, E.C.

My dreams are coming true; we will yet see a Society 15,000 strong, subscription half-a-guinea or less; until then, I believe, the penal work ahead demands a guinea, though the most of us find guineas getting scarcer every year.

JAY MACK ["A little nonsense now and then," etc., and this is. What Jay Mack proposes cannot be done under the existing statutory powers, and Jay Mack must either dream a little longer or submit proposals for a new Act. The M.D. Durham idea is not a precedent. No one is admitted to it who is not a registered medical practitioner.—Ed. C. & D.]

Selling Chemists' Businesses.

SIR,-After reading Jay Mack's article in your issue of January 9 I began to wonder what my business would fetch if put on the market, and whether it would have a ready sale or otherwise. May I ask for your comments and those of your readers as to the state of my business as far as can be told from particulars below? I am in a large village within easy walking distance of a large manufacturing town. As an opponent, one qualified chemist. The business is a mixed one (very mixed indeed): besides selling drugs, patents, sundries, bird-seeds, and a little oil, I have a winelicence, I extract teeth, and test sight. The number of customers per week averages 951, and prescriptions per annum 400. The business can fairly be called a cash one, as 96 per cent. of the sales are for cash. Stock was taken as usual in June last year, showing the following result:

TRADING ACCOUNT. s. d. 3 3 1,157 12 11 331 Stock, 1907 Cash takings ... Purchases for year 829 19 Debts due to me 40 16 5 336 3 6 Paid for Stock, 1908 ... 373 10 3 Gross profits £1,534 12 10 £1 534 12 10

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| | | | | Advertise | ement | s | 20 | 15 | 7 |
| | | | | Medicine | stam | ps | 1 | 13 | 0 |
| | | | | | | • ••• | 3 | 16 | 3 |
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The work is done by myself with the help of an apprentice and one errand-boy. Stock is kept clean and up-to-date by constantly going over same. Would a business of this description be worth any goodwill, or simply valuation of Yours faithfully, stock and fixtures? WORKER. (180/71.)

Dispensing Notes.

Cascara Sagrada Pills.

SIR,—The following pills keep very badly when kept in a room where there is not a fire. Several excipients have been tried without any difference (i.e., syrup and glucose). Dried

extract cascara we find better than the pilular one. What can you suggest?

Ext. casc. sag. Ext. bellad. gr. g . . . ••• Ext. nuc. vom. gr. 4 Aloin ... gr. j RESIN. (38/91).

[Powder the extract of cascara sagrada with the aloin, work Powder the extract of cascara sagrada with the aion, work in the extracts of belladonna and nux vomica, and add just enough water to make a very hard pill. Extract of cascara sagrada is very hygroscopic, and there is so much of it in this prescription that the pill will not keep without protection unless in a dry atmosphere. The extract, being already a dry extract, does not permit of reduction by evaporation, and as the pill is large enough with the ingredients ordered, there is not room for absorbent material to be added. If the pill is not room for absorbent material to be added. If the pill is not room for absorbent material to be added. If the pill be not varnished or pearl-coated, the correct and only effective procedure is to put it into a vial with a tight-fitting cork. We have kept practically the same pill for months in this way.]

An. Application

Sir,—Is it possible to make a perfectly smooth and presentable preparation of the following?-

Bals. tolut. ... Ol. ricini . . . Misce.

Yours faithfully, DISPENSER. (171/28.)

DISPENSER. (171/28.)

[Take a nice clean piece of tolu, powder it finely—it powders nicely in this cold weather—and triturate in a mortar with the castor oil, or they may be firmly rubbed on a slab. The result is a nice white ointment-like product. It is not perfectly smooth, because the tolu not being in solution is very slightly grainy. Melting the tolu and castor oil together before rubbing up does not effect an improvement. The smoothest product is obtained by dissolving the tolu in an equal weight of absolute alcohol before rubbing up with the oil and then evaporating off the alcohol. The colour of the compound, however, is darker than that of the first, but it is, we think, more attractive. In our opinion the preparation we think, more attractive. In our opinion the preparation obtained by the first method is sufficiently good for ordinary practice. The combination is not common. Balsam of *Peru* and castor oil are fairly often prescribed together. It is just possible the prescriber meant to order that combination.]

Legal Queries.

Before submitting questions for reply in this section please refer to the "C. & D. Diary, 1909" for the following subjects:
Income-tax, p. 220; Pharmacy Law and Poisons, p. 216, (abroad) p. 211; Spirit Laws, p. 229; Stamped Medicines, p. 221; Trade-marks, p. 194; Wines, Sale of, p. 231; and Legal matters generally, p. 233.

Lex (187/39).—No.

Lux (188/57).—See reply to "Nemo."

Nemo (190/58).—See C. & D. Diary, p. 231, in regard to wine-licences.

Constant Reader (190/32).—Sec reply to "Puzzled," C. & D., January 9, p. 66.

Kimia (190/73).—The pile-ointment label will make the preparation liable to duty, as it contains the name of an ailment.

C. T. (182/13).—If you open the branch and place a qualified assistant in charge of it, the name and certificate of the assistant must be exhibited in the shop.

J. G. (187/40).—As pulv. ipecac. co. contains 10 per cent. of opium and 1 per cent. of morphine, it is in Part 1 of the Schedule. The reference to Part 2 against Dover's powder in our last issue was a slip.

T. W. C. (189/49).—You should endeavour to clean your certificate with stale bread. If, after a fair trial, it is too dirty to exhibit, you may obtain a certificate of registration from the Registrar on payment of a fee (see C. & D., January 23, p. 120).

Stavesacre (188/22).—As oil of stavesacre contains the alkaloids of the seeds, and as they come under the designation "poisonous vegetable alkaloids," an ointment prepared from the oil will, on April 1, be regarded as a Part 2 poison, and may only be sold by qualified chemists.

Aloin (182/3).—If two chemists have a joint branch of their business under unqualified management they are required on April 1 to conform to Section 3 of the new Act. See reply to "Jones, Chemist, Blanktown." You are right in recognising the fact that a man being qualified makes him amenable to the law.

A. B. C. (188/8).—It is not necessary under Section 3 (1) of the new Act that the owner of a chemist's shop should be its bona fide conductor. If he employ a qualified assistant, the name and certificate of that assistant conspicuously exhibited in the shop meets the purposes of the Act, this being an alternative.

Laurencio (177/7).—You cannot prevent anybody else compounding and selling a preparation of known ingredients and describing it by the names thereof. All the protection that the law affords you is as to the fancy name you select and the particular form (if novel and distinctive) in which you put up the article.

C. B. (183/37).—You give us no nom de plume. Dispensing by chemists is trading for the purposes of the Weights and Measures Acts, and scales used in compounding must be stamped. The fact that the inspector refuses to stamp a very sensitive balance suggests that it may easily get out of order. The penalty for using unstamped scales is a fine not exceeding 5*l*., and forfeiture of the scales.

Ph.C. (189/9) is the personal owner of a business founded by a chemist and druggist in Scotland. The founder traded as "Blank & Co.," and "Ph.C.," a pharmaceutical chemist, continues that style, with the title "pharmaceutical chemists." Can he continue to do so under the new Act? [Yes. Our correspondent has no partner; if he had, the title "pharmaceutical chemist" could not be used, Section 3 (4) preventing such use by firms in Scotland.]

Rhei Co. (191/11).—There is nothing in the new Act to entitle you to be registered as a chemist and druggist. A good deal is being said at present about the claims of unregistered persons who have spent all their lives in the retail drug-trade persons who have spent all their lives in the retail drug-trade to be placed on the register without examination. There is nothing in the Act which authorises the Pharmaceutical Council to do this. Your own opportunity was in 1868, when you were entitled to enter for the Modified examination.

Alpha (189/32).—The reply to "Nemo" covers your queries A/pha (189/32).—The reply to "Nemo" covers your queries so far as the principle is concerned, except that your proposal, as regards your two shops, to manage No. 1 yourself and on Wednesday evenings to manage No. 2, selling or dispensing poisons therein, settles any question there may be about the business carried on in No. 2—it would certainly be that of a chemist and druggist, and a qualified manager is required in it. The terms of Section 3 (1) are not free from doubt, but there invested the chemist convert manager may a then our they imply that a chemist cannot manage more than one shop, and if he has more than one—say, two—he must employ a registered chemist in the one that he does not manage

Army Dispenser (190/31).—Powers are given under the new Act to enable the Pharmaceutical Council to register certain persons without examination who produce evidence satisfactory to the Council that they are persons of sufficient skill and knowledge to be so registered, but as a preliminary to this the Council has to draft by-laws respecting a curriculum and the qualifying examination. These are not likely to be less onerous than the present Preliminary and Minor examinations, and the conditions so formulated will have to be equalled by persons who desire to be registered without that examination. The Army Dispensers' examination in 1874 was far behind even the Minor of that day, so that your chance of registration is practically nil.

Chemist Dentist (168/10).—The law is perfectly plain. If a chemist who is not a registered dentist employs a registered a chemist who is not a registered defitist employs a registered dentist to carry on practice for him as a dentist, and advertises "painless extractions," the chemist would be liable according to the decision in Barnes v. Brown, and his dental assistant would be liable to be called upon by the General Medical Council to answer the charge of covering. The card which you use contains the words "Dentist in attendance," and this may be construed into use of the title contrary to Section 3 of the Act. If that were done you would be required to state in court who is the dentist, and this disclosure would facilitate a charge against him for covering. Otherwise your card is not, in our opinion, an infringement of the Act. It is not an offence on the part of an unqualified person to employ a registered dentist.

Nemo (189/64).—Your position is that as a registered chemist carrying on the business of a chemist and druggist vou are required by Section 3 of the new Act to have the business in the branch bona fide conducted by a registered chemist. Until the phrase "business of a chemist and druggist" is defined, it is impossible for us to say that you take the branch out of the section by describing it as "Nemo's Drug-stores" or "Nemo's Supply Stores," and cease to sell or dispense poisons there. We regret that we cannot write more definitely than this, especially as what you propose to do can leavely be done by unqualified persons, but the latter are vou are required by Section 3 of the new Act to have the can legally be done by unqualified persons, but the latter are not expressly penalised, while you are, by the section. As at

present advised we are bound to say that the business consists of more than using the title and selling and dispensing poisons, but how much more must be judicially decided.

W. T. (189/20).—(1) As to trading names of registered chemists, the Pharmaceutical Council's practice has been to regard these as conforming to the law so long as the owners are qualified in accordance with the titles used. Thus Mr. Carteighe, while President of the Society, traded as "Dinneford & Co." Mr. Greenish traded as "Godfrey & Cooke," and Mr. Hills as "John Bell & Co." The new Act, we have repeatedly stated, makes no change in the law bearing upon this practice. On one occasion a magistrate fined a person for using a trading-name and not his own on a poison label, but the Pharmaceutical Council have not acted upon this by prosecuting other persons. (2) Section 3 (3) authorises a registered chemist to use the title "pharmacist," and Smith, a chemist, may trade as "Jones & Smith, pharmacists." Smith cannot be proceeded against; Jones might be if he were not a chemist, but as he is dead, the matter ends there. (3) The Pharmaceutical Council is considering the matter of certificates of registration.

Jones, Chemist, Blanktown (182/10).—(1) Your query is a variant of one which has been answered weekly during this month. Section 3 of the new Act virtually says that every premises in which a registered chemist carries on business as such must be in charge of a qualified chemist. Read the article in our issue of January 2, p. 18, especially the last paragraph. Note that the mere description of the premises is not the basis of the consideration; the new law refers to the individual, and lays down how his business is to be conducted. If "Jones, Chemist, Blanktown" also trades in Whitetown as "Jones' Pure Drug-stores," prima facie the latter should be managed by a qualified man, provided the business of a chemist and druggist is carried on there. What you suggest is that if no poisons are sold or dispensed in the Whitetown shop and the title is not used there, the shop may be managed by an unqualified man. That cannot be decided until the Pharmaceutical Council takes action against someone who does it. (2) There is nothing to prevent an unqualified person selling medicines packed by a manufacturing chemist with the name and description of the manufacturer upon them, but if in case (1) Jones also trades as a wholesale chemist and supplies Whitetown in that manner, it would not be difficult for the Pharmaccutical Society to prove that Jones used the title in Whitetown.

J. S. B. (163/45).—Railway companies will not as a rule accept consignment notes the conditions of which they cannot comply with; hence if a consignment note is made out "paid to destination" and they have no carting arrangements at the delivery station, they would refuse the note in that form, and state their conditions of service. If one buys goods "carriage paid to destination" and the railway company do not undertake this service, the seller is responsible to pay the extra cartage charges for delivery. It is a general custom at small town or village stations, where the railway company have no horses or lurries for delivering goods, for goods to be carried only at station to station ("S to S") rates, or at a rate covering cartage at receiving station and carriage to station only, and consigned to station only; the "carr. paid to destination" is then a matter between buyer and seller, and not between railway company and receiver. All railway companies are bound by law to give to applicants class rates for all goods which they accept for conveyance by their trains, and to state whether "C and D" (carted and delivered) or station to station ("S to S"), and by the conditions of the rates on which they carry the goods are they alone bound. The term "carriage paid" does not always mean delivered free to destination, and it is well to have these things thoroughly clear when coming to terms for purchase of goods.

Miscellaneous Inquiries.

We endeavour to reply promptly and practically to trade questions of general interest, but cannot guarantee insertion of replies on a particular date, nor can we repeat information given during the past twelve months. A preliminary condition for reporting on samples submitted is that all particulars as to source and uses are given to us.

- H. T. (177/45).—TOBACCO FLAVOUR.—The flavour of tobacco develops during the process of curing, and various petuning liquids are employed at this stage which give distinctive flavours to the tobacco from certain districts. A formula for one of these liquors was given in the C. & D., November 10, 1906, p. 736.
- D. E. D. (167/5).—We have not been able to supply the formula for which you ask. An advertisement offering a premium for such a recipe would doubtless bring you replies, but your difficulty will probably be to satisfactorily test the formulæ to prove their worth.

Veritas (173/62).—Banana Syrup.—This is made either from the fruit or from the essence—an artificial product. The first form is as follows:

Mash 1 lb. of bananas to a pulp, add 1 pint of water and 5 pints of syrup, and heat to boiling; then strain and add $\frac{1}{2}$ oz. fruit acid.

The fruit acid referred to is a solution of 4 oz. of either citric or tartaric acid in 8 oz. water. Where the artificial essence is employed the recipe is:

The banana essence is made from a recipe such as the following:

| Amyl butyriate | | | |
|------------------|------|------|----------|
| Amyl acetate of | each | | ½ OZ. |
| Ether butyric | | | 1 oz. |
| Turmeric | | | 2 grains |
| Rectified spirit | | | 5 oz. |

Ferrum (123/25).—RINGWORM OINTMENT FOR CATTLE.—The following, from "Veterinary Counter-practice," is trustworthy:

| Sulphi | | • • • • | • • • | • • • • | 3J. 4 oz. |
|--------|-------|---------|-------|---------|--------------|
| Black | | | | | |
| Turper | ntine | | | | 4 oz. |
| Lard | | | | | 1 lb. |
| | | | | | |

W. L. (Davos-Platz) (168/5).—(1) LIQUID COURT-PLASTER.— See C. & D., January 9, p. 68. (2) The "skin-food" formula will be given in a subsequent edition.

L. L. S. (172/2) asks what should be supplied in filling an order for

```
Oil of semmany ... ... 4 dr.
Viper ... ... ... 2 dr.
```

The opinions of our readers are invited.

H. N. D. (174/20) submits a similar inquiry. He writes: "What are oil of bevercod and oil of coffus?" These ingredients are ordered to be mixed with wax and marjoram and perfumed with musk. Suggestions are invited.

P. C. B. (Calcutta) (155/67).—There is no book published dealing with the manufacture of synthetic perfumes. Most of these materials are the subject of letters patent, and the processes given in the patent specifications only become public property on the expiry of the patent.

Gapes (172/18).—Gapes Mass for pheasants and fowls. The following yields a product resembling the sample you send:

```
      Iron sulphate
      ...
      5j.

      Powdered capsicum
      5ss.

      Powdered fenugreck
      3j.

      Powdered red sanderswood
      3i.

      Liquorice powder
      3i.

      Treacle
      a sufficiency
```

Mix the powders and make into a soft mass with treacle.

C. E. B. (166/61).—Publishing a Price-list and Calendar.—In an article which we published January 6. 1900, p. 14, it was stated that the cost of printing 5,000 of a sixty-four-page list with cover in two colours was from 15*l*. to 30*l*. Advertisements in such lists are charged at about 30s. a page, but some manufacturers of proprietary medicines deduct the amount from a 5*l*. order.

Chemicus (177/44).—BRILLIANTINE.—To ensure complete separation of the oil and spirit used in making brilliantine it is necessary to use absolute alcohol. The usual way to prepare it is to add the perfume and turmeric to the alcohol, and then in the bottles add an equal quantity of almond oil. The formula for the essence is as follows:

| Oil of bergamot | | | |
|-----------------------|-------|-------|-----------|
| Otto of rose, of each | • • • | • • • | 20 minims |
| Oil of neroli | | | 30 minims |
| Powdered turmeric | | | 4 grains |
| Absoluto alcohol | | | 20 oz. |

Resin (172/67).—Hydrocyanic Acid as Greenhouse Fumigant.—See C. & D., December 5, 1908, p. 871, or "Pharmaceutical Formulas," p. 416.

I. S. (173/6),—Children's Soothing-syrup,—The following yields a syrup much like the sample you send:

```
Oil of anise ...
                    ...
                                      mx.
                          ...
Oil of fennel ...
                                     mij.
                           ...
                                 ...
                    ...
Oil of peppermint ...
                                      mx.
                           ...
                                 ...
Rectified spirit
                                     1 oz.
                                     l'oz.
Distilled water
                                 • • •
                                 ... zviij.
Syrup to make
                    ...
```

Mix. Dose: Half to one teaspoonful in a tablespoonful of warm water, to be given in small quantities at a time.

JANUARY 30, 1909

THE CHEMIST AND DRUGGIST

129

T. MORSON & SON

14 ELM ST., GRAY'S INN ROAD, LONDON, W.C.

FINE CHEMICALS

MEDICINE, PHARMACY, AND THE ARTS.

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| and Benzoic Acid, in combination. | |
|--|---------|
| BROMO-HEROIN (Curling) | Per Ib. |
| GLYCEROL TERPIN-HEROIN CO. (Curling) | 4/- |
| SYRUP PINI-HEROIN CO. (Curling) | 2/6 |
| LIN. SALICYL. CO. (Curling) | 3/6 |
| UNG. SALICYL. CO. (Curling) | 3/3 |
| LIQUOR BISMUTH CO. RUB. (Curling) | 5/- |
| LIQUOR BISMUTH CO. c. PEPSINA (Curling) Similar in composition to above, with the addition of 3 grs. of Pepsine in each drachm. | 7/- |
| SYRUP FORMATIS CO. (Curling) | 3/6 |
| SYRUP GLYCEROPHOSPH. CO. (Curling) | 2/6 |
| UNGUENTUM CARBONIS CO. (Curling) | 3/6 |
| UNG. HÆMORRHOIDAL (Curling) (Hamamelis & Conium Gream) Possesses styptic and sedative properties of the Witch Hazel and Conium combined in a condensed form, with an antiseptic emollient base. 1 oz. metal collapsible tubes, 4/6 doz.; 2 oz. tubes, 8/6 doz.; with rectal tubes, 1 oz., 8/6 doz.; 2 oz., 12/6 doz. | 3/- |
| UNG. IODI. (STAINLESS) (Curing) Containing 5% of Iodine in actual solution. This ointment is of great value for application where | 2/3 |

SAMPLES SENT FREE ON APPLICATION.

the usual dark stain is objectionable.

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Standardised Preparations:

The essential requirements of a Standardised Preparation are that it shall contain the prescribed percentage of active principle or principles of the crude drug from which it is made.

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Conformity to these requirements is the recognised feature of the STANDARDISED PREPARATIONS manufactured in the laboratories of this Company.

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Reduction to the necessary degree of concentration of certain liquids containing potent principles if effected in an Open Pan may seriously impair their medicinal value, unduly deepen their colour, or their characteristic aroma may be dissipated.

The needed prevention will be secured by evaporating the liquids in vacuo. Barron's, Davy Hill's, Hearon's, and Hodgkinson's have long been to the front with galenicals produced by this method of

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These refer to those Special Preparations designated as "B.H.," "D.H.," "H.C.W.," and "HERON" respectively, which have acquired a reputation based on their proved therapeutic value, and which are in regular demand. These distinctive preparations will be retained in their present form.

When ordering please specify "B.H.," "D.H.," "H.C.W.," or

"HERON," as desired.

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All powdered drugs are home ground, and are previously picked, cleaned, and, where needed, carefully dried, and may be relied on for quality, for colour, for the degree of comminution or pulverisation required, and for being absolutely genuine.

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finds favour everywhere because it does not separate; none but the best Norwegian oil obtainable is used in its preparation. Being emulsified by an edible lichen, it is grateful and easily digested. Its flavourings are Ceylon cinnamon and ratafia, and it is acceptable to the most fastidious or delicate.

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Supplied in Winchesters, labels being given with each supply; and also packed ready for retail in a variety of forms.

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A much esteemed neutral syrup of the hypophosphites of iron, lime, soda, potash, manganese, and quinine.

Wrapped 4 oz. ... **4/9** doz. In handsome cartons, 6 oz. **7/2** doz. , 12 oz. ... **11/8** , , , , , 8 oz. **9/-** ,

Samples of the above, with copy of Price List, sent free on receipt of business card or label at any one of the following ADDRESSES:—

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| ANTITUXINS, | VACCINES, &c. |
|--|---|
| Diphtheria Antitoxin. | Anti-Staphylococcic Vaccines. |
| Liquid, in tubes of 2,000 units, two tubes in a case (Single tubes supplied if requested.) High potency liquid, in tubes of 4,000 units 10/- Dried, in tubes of 4,000 units 5/- | (a) From Staphylococcus aureus alone, (b) From Staphylococcus aureus, citreus and albus, (c) From Staphylococcus albus alone, In tubes of ½ c.c 1'- |
| Diagnosis boxes with two sterilised glass tubes and a sterilised swab 1/- | In tubes of 1 c.c 1/6 In tubes of 2 c.c 2/6 |
| Tetanus Antitoxin. | Anti-Streptococcic Vaccine. |
| Liquid, in tubes of 10 c.c three tubes in each case 12/- (12 tubes necessary for a curative dose.) Dried, in tubes of 1 gramme (= 10 c.c liquid Serum) 4/- | In tubes of ½ c.c 1/- In tubes of 1 c.c 1/6 In tubes of 2 c.c 2/6 |
| | Anti-Pneumococcic Vaccine. |
| Anti-Streptococcic Serum (polyvalent). 1n tubes of 10 c.c., three tubes in case 7/6 (Single tubes supplied if requested.) | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| Diagnosis boxes with sterilised pipette in glass tube 1/- | Anti-Cholera Vaccine (KOLLE). |
| Anti-Dysentery Serum. In tubes of 20 c.c 5/- | In tubes of 1 c.c 2/- In tubes of 5 c.c 5/- |
| Normal Serum (Horse). | Anti-Typhoid Vaccine. |
| In tubes of 10 c.c 1/- | In tubes of 1 c.c 1/6 Anti-Gonococcic Vaccine. |
| Yersin's Anti-Plague Serum. | In tubes of ½ c.c 2/6 |
| In tubes of 20 c c 6/6 | Calf Vaccine Lymph. |
| Haffkine's Plague Prophylactic. Liquid, iu tubes of 20 c.c. (10 doses) 6/- | Mctal Capillary Tubes (one vaccination) each 6d. Per dozen tubes 5/- Tubercle Bacilli. |
| <u>Coley's Fluid (New).</u> In bottles of 2 c.c 5/- | For making Emulsion for opsonin testing, in tubes each 5/- |
| Tuberculin. FOR WETER Mallein. | Anti-Tetanus Serum. |
| | (T2 - X7 - 4 - 2 T) |
| In tubes of 3 c.c $1/-1$ In tubes of 3 c. | .c 1/- (For Veterinary use only). |

| | E | OR RELEGINARY | 03 | E4 • |
|-------------------|-----|-------------------|-----|---|
| Tuberculin. | | Mallein. | | Anti-Tetanus Serum. |
| In tubes of 3 c.c | 1/- | In tubes of 3 c.c | 1/- | (For Veterinary use only). In tubes of 10 c.c 3/- |
| | | | | |

TELEGRAPHIC CODE.

For convenience when ordering Antitoxins by telegram or cablegram, ALLEN & HANBURYS have adopted the following short code.

| ETA sig | nifies | Anti-Cholera Vaccine, | BETA sign | ifie | s Anti - Streptococcic | PENTE sig | gnifi | es Normal Serum (Horse) |
|---------|--------|---|--------------|------|--|-----------|-------|---|
| | | 1 c.c. | | | Serum, one case of 3 | | | 10 c.c. |
| THETA | ** | Anti-Dysentery Serum, 20 c.c. | TESSARES | ,, | Anti-Streptococcic Vac- | LAMBDA | " | Tetanus Antitoxin Liquid, four cases |
| HEIS | ,, | Anti-Gonococcic Vac- | OMICRON | ,, | cine, 1 c.c. Anti-Typhoid Vaccine, 1 c.c. | | | containing 3 vials of 10 c.c. in each case. |
| DUO | ,, | Anti - Pneumococcic Vaccine, 1 c.c. | CHI DELTA | ,, | | KAPPA | 1) | Tetanus Antitoxin, Dried, 1 grm. |
| NU | ,, | Anti - Staphylococcic Vaccine (A), from S. | EPSILON | ,, | one bottle. Diphtheria Antitoxin. | HEX | ,, | Tubercle Bacilli (Opsonin), one tube. |
| PI | | aureus, 1 c.c. Anti - Staphylococcic | | | Liquid, one case of 2 tubes, 2, 00 units each. | GAMMA | ,, | Yersin's Serum, tube of 20 c.c. |
| | ,, | Vaccine (B), from S. aureus, citreus, and | RO | ,, | Diphtheria Antitoxin, high potency, 4,000 units. | SIGMA | ,, | Anti - Tetanus Serum Veterinary, 10 c.c. |
| TREIS | ., | albus, 1 c.c. Anti - Staphylococcic | IOTA | ,, | Diphtheria, Dried Serum, 4,000 units. | TAU | ,, | Mallein, Veterinary, 3 c.c. |
| | | 77 2 (-) C C | Trom 4 | | TT . CC1 . 2 | OMECA | | PRODUCTION AND ART AND ARTER AND ARTER |

Vaccine (c), from S. ZETA , Haffkine's Prophylac- OMEGA ,, Tuberculin, Vcterinary, albus, 1 c.c.

If more than one tube or case be required, numerals should be used after the Code Word.

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MILTITZ, near LEIPZIG.

THE following description of the works of Schimmel & Co., Miltitz, is abstracted from a booklet issued by the Company. It is believed that the drug trade will be interested in the particulars here given of the largest essential oil distillery in the world.

THE present offices and factory premises of Schimmel & Co. were erected at Militiz in 1900, and in the following year the whole business was transferred without any serious interruption from Leipzig, where the firm had its headquarters ever since its foundation in the year 1829, to the newly established works.

foundation, in the year 1829, to the newly established works.

The site of the new premises, 5 miles distant from the centre of the city of Leipzig, adjoins the Thuringian Railway, with which it is connected by its own sidings, about 20 minutes journey from Leipzig. It covers 62 acres of ground, and is divided into two parts of nearly equal size by the road leading from Klein-Miltiz to Lindennaundorf. On one of these parts the whole of the factory premises are situated, on the other, the office buildings with the post and telegraph office, and also in the midst of gardens the dwelling-houses of the staff of officials and workmen of the firm. On the other side of the railway, only the club house of the staff of the firm is situated.

The plot, which is crossed by roads, is provided with a drainage system, and gas and water supply; the sewage, i.e. the waste water from the factories and also the waste water and

the sewage from the dwelling houses, is carried to distant irrigation fields, covering some 7 acres, and arranged according to the Berlin system.

The total area owned by the firm in Miltitz covers about 300 acres.

A walk round affords the best view.

affords the best view.
On leaving the station we pass the Imperial Post Office (fig. 1, foreground), belonging to the firm, where the letters, parcels, and telegrams are dealt with, and next arrive at the office block (fig. 1) which in its two main wings harbours the offices, stores, forwarding, and book and coperplate printing departments, and also the carpenter's and also the carpenter's

shop where the packing cases are made.

On the ground floor of the office block, on the left, are the general offices (fig. 2), 118 feet long, 56 feet wide, and 20 feet high, affording room for a staff of about 70. They are fitted up with all modern improvements, and may without exaggeration be called an ideal place for work.

Memorial tablets recall the high visits with which the firm was honoured: at Leipzig, in 1869, by King John of Saxony; in 1888, by King Albert and Queen Carola of Saxony: and at the Miltitz establishment on 16th February, 1905, by Frederick August, King of Saxony

of Saxony.

The right wing contains the principal forwarding department and the packing hall with adjoining rooms. Here the eye of the visitor meets an animated scene, for the goods manufactured in the various departments are here collected and prepared for despatch.

2,400 square yards of cellarage serve for storing the stock, the average value of which amounts to about £100.000.

The ground floor further contains the Miltitz Custom-house which has been specially established for the firm, and is authorised to exercise the widest powers

The printing department, situated on the first floor, keeps employed 2 printing machines, 2 lithographic presses, 1 copperplate press, and 12 auxiliary machines, whilst galvanic depositing baths for copper and steel are also provided. This plant is barely sufficient to meet the demand for printed matter, such as pricelists, circulars, pamphlets, etc. The whole of the necessary binding work is also done here.

The Lindennaundorf road separates the commercial department from the factory premises. On crossing the road, we arrive first of all at the gate keeper's lodge with the mess room, cloak rooms for the workmen, and the doctor's consulting-room. The latter contains all that is necessary for cases of sudden illness, and particularly for first aid in accidents. The works' doctor has his consultation hours here three times weekly.

As we continue our way, we now come in succession to: The boiler-house with its 14 boilers.

The main factory (fig. 4) with the adjoining building serving

chiefly for working up roses, mignonette, and orris.

The main building for the chemical processes (fig. 4).

The building for

search work (fig. 5).

The buildings for
the manufacture of
inflammable products.

the chemical

At the side, near the Schampert brook, are situated the workshops for the locksmiths, coppersmiths, and plumbers.

When the works were originally established, the sole aim was the production of the essential oils from plant material, and at the present time this still represents one of the main objects of the general work. But in addition to this, the firm already at an early date undertook purely chemical work in the domain of the artificial perfumes, and



Fig. 1.

this has gradually developed into a wholesale manufacture of equal importance.

The Boilers, Engines, and Water Supply.

The plant, which supplies the works with steam for heating and power, consists of 14 double-flue boilers with an aggregate heating surface of 15,070 square feet. They are capable of transforming in the 12 hours' working day normally from 44,000 to 55,000 gallons of water into steam partly of 70, and partly of 140 lbs. pressure. The water required for this purpose is purified from the salts forming scale, by means of two Reichling's water-purifying apparatus, each of a capacity of 6,600 gallons per hour. In the centre of the boiler-house the chimney-shaft rises 197 feet high, with a diameter of nearly 9 feet at the top. The boilers, partly with stepped tubes and partly with Galloway tubes, are provided with step-grates for burning lignite; the coal store is above the firing floor. The coal trucks are run to the boiler-house

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with a fireless locomotive, and the coal is then dropped through a grate into a pit from which it is removed by a lift and deposited on a conveyer belt which dumps the coal into the bunkers. The coal is fed automatically to the grate by setting the lever in a suitable position. The generated steam is carried by a subterranean passage to the main factory building, from which a network of pipes branches off to all the other shops.

A second boiler-house for a further 12 boilers, and a chimney

200 feet high, are already being built, as the existing installation

has reached the limits of its capacity

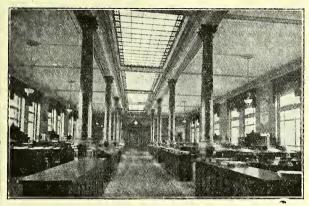


Fig. 2

The steam is used chiefly for heating purposes, i.e. for distillation, and only a small proportion for generating power, for the disintegrators, lifts, cranes, agitators, for the air- and hydraulic

Two horizontal Augsburg steam engines of 400 h.p. each supply the required power (fig. 3). Each of these is coupled direct to an alternating current generator of 180 kilowatts = 3×820 amperes

atternating current generator of 180 kilowatts = 3×820 amperes at 220 volts. The electric current is transmitted to 70 motors ranging from 1½ to 60 h.p. The premises are lighted by direct current dynamos, assisted by an accumulator battery.

The water consumption at the works is comparatively large, as much water is used for condensing the vapours. Two separate supplies serve this purpose, but each of them can be increased so much (if processory with the belief of a cooling tower that it also much (if necessary) with the help of a cooling tower that it alone can meet the demand. The one consists of 30 tube wells yielding 15 gallons per second, or 650,000 gallons in 12 hours; the other has a yield of 13 gallons per second = 560,000 gallons of water in 12 hours. The normal demand of the factory is about 880,000 gallons daily. For the sake of comparison, it may be meutioned here that a town with 10,000 inhabitants consumes about 176,000 gallons in 24 hours, and that for the city of Leipzig, with its half-million inhabitants, 13,200,000 gallons is a high daily demand. The loft of the main factory building holds 6 water tanks of 8,800 gallons capacity each, whence a far-reaching network of pipes conducts the water into all the buildings, the dwelling-houses, and their gardens. In the yard of the works, and in the various roads of the whole establishment, 25 underground hydrants are provided for use in case of fire. For the rest, a volunteer fire brigade with fire-engines (hand and steam) and all necessary extinguishing apparatus, watches over the safety of the whole establishment.

Main Factory Building.

A view in the large distilling hall, which occupies practically the whole ground floor of the main factory building, shows the iron and copper distilling apparatus at work. From the second floor, where the raw material is stored—the roots, wood, bark, leaves, blossoms, fruit and seed, resins and balsams—this material is brought to the first floor in order to undergo the process of

disintegrating, the necessary preparation for the distillation.

Here are to be found side by side numerous machines, rolling mill chairs, edge rollers, Excelsior mills, Boggardus mills, rasping machines, cutters, circular saws, stamps, which are working away from morning to night, filling the enormous space with their incessant turmoil. In the disintegrating process, the dispersal of the dust is prevented as much as possible in the interest of the health of the employees, by an arrangement of nets, or by enclosing the machines in dustproof casings. Large hoppers receive the prepared material, and allow it to run down into the stills placed underneath on the ground floor.

If in the disintegrating room the noise has been deafening, here we are met by the hissing, the roar, and the rush of the steam. Although in the process of distillation the escape of all oil vapours is carefully avoided, an aromatic odour pervades this room, which has a floor space of 3,000 square yards and is 26 feet Although the room has high windows, it is further ventilated by air under pressure for the purpose of purifying the air,

and particularly with a view to cooling it during the summer.

The size and construction of the distilling apparatus, which The size and construction of the distilling apparatus, which are mostly built in the firm's own workshops, varies naturally very considerably, from the small testing apparatus of 100 cc. (about 12th of a pint) to the large still for camphor oil of 10,560 gallons capacity. Every possible distillation-process is here taken into consideration and is also put into practice: evaporation without pressure, boiler steam of 70 and 140 lbs. pressure, wet steam and capachested steam distillation at atmospheric pressure at and superheated steam, distillation at atmospheric pressure, at increased pressure, at reduced pressure of 100 mm. down to a vacuum of 5 to 2 mm.

The manufacture comprises the production of the volatile oils of the vegetable kingdom which are at all valuable from a technical point of view, or possess a scientific interest. Of the many hundred kinds of raw material which come under consideration, the principal ones, which are worked up in large quantities,

Ajowan seed Angelica roots Anise-seed Apricot kernels Bay leaves Calamus roots Caraway seed Cedarwood Chamomile blossoms Cinnamon (Ceylon) Cloves and clove stems Coriander seed Cubebs Fennel seed Ginger roots

Guaiac wood Juniper berries Laurel leaves Mignonette flowers Mustard seed Nutmegs Orris roots Patchouli herb Peppermint herb Pimento Rose flowers Sage leaves Sandalwood, East Indian Sandalwood, West Iudian

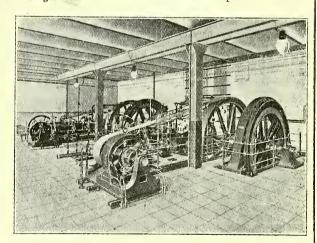


FIG. 3.

The following example will explain the process by which the essential oil is obtained from the plant; it will also show how the work of distillation goes hand in hand with that of the chemical department.

The ajowan-seed which reaches us from India-small grains having the appearance of anise and possessing a sharp aromatic odour, and a burning taste—is crushed between rolls, and allowed to run into the distilling apparatus placed below the rolls. Such a distilling apparatus, from ancient times also called

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"copper," represents an iron or copper cylinder about 6½ feet high by 5 feet wide, closed at top and bottom by curved plates. Above by 5 feet wide, closed at top and bottom by curved plates. Anove the bottom, a second plate, perforated like a sieve, is arranged as a false bottom, and on this is placed the distillation material which has been put into the cylinder through the manhole. A large pipe in the centre of the top plate connects the cavity of the still with the condenser. Below the false bottom, i.e. below the contents, steam is admitted from the boiler into the still, and, passing through the ajowan seed and filling all interstices, it mounts upwards, evaporating in its course the essential oil wherever it meets this. The mixture of steam and oil vapour rises from the contents of the cylinder, passes through the worm



or bundles of pipes of the condenser, round which water flows, and is there condensed into a mixture of liquids. Now, as the essential oil dissolves but very little in water, it separates off from the latter, in the form of an oily film, in the receiver into which the distillate flows from the condenser. The distillationwhich the distribute nows from the concenser. The distribution water which still contains a small quantity of oil, partly in solution and partly suspended, is worked up further in a second still.

The work is so arranged, that in case of need oil can already be collected and delivered even before the truck which has brought

the raw material has been completely discharged. Ajowan seed, however, is somewhat more difficult to distil than other seeds, such as caraway, fennel, or anise. With the apparatus usually employed for the purpose 5 tons of ajowan seed are worked up daily, against 10 tons of caraway. But in special cases this quantity can be considerably increased by also making use of other apparatus.

The essential oils to which the parts of the plants in question The essential oils to which the parts of the plants in question owe their odour and aroma are usually mixtures of several chemical bodies, and consequently form with their large number a rich source of numerous valuable chemical bodies. Ajowan oil, for instance, consists for about half of thymol, and further contains cymene, pinene, and dipentene. The principal valuable constituent in the oil is thymol; as an antiseptic it may be compared with carbolic acid, but it has a more pleasant odour, not such caustic properties, and is more harmless. In the pure state it forms beautiful white crystals. In order to make a preliminary rough senaration of the constituents of ajowan oil advantage is taken of separation of the constituents of ajowan oil, advantage is taken of the difference in volatility, the thymol having the highest boiling point, whilst the other above-mentioned bodies boil much lower. If during the distillation of the oil the distillate is collected in separate fractions, a crude thymol is obtained, which is now taken to the chemical department, into the building for inflammable materials, where it is purified by repeated recrystallisation in a readily volatile and easily combustible solvent. So far this example.

example.

The production of essential oils by the firm itself only represents a portion of the work. Very many oils are bought, their production being only possible on the spot from the fresh plant, such as eucalyptus, lavender, spike, rosemary, ylang-ylang, cassia, cajeput, star-anise, and other oils, or because the expense of bringing the raw material to the works would render the cost price of the oils too high. Some of these oils are purified by rectification and then sold, i.e. they are only submitted to a refining process.

The importance of lavender oil has necessitated the establishment of a branch distillery (fig. 6) at Barrême (Basses-Alpes). Here the finest lavender oil is distilled under the superintendence of one of the firm's chemists who is an expert in this branch of the essential oil industry.

Chemical Department.

In the processes hitherto described, the essential oils are abstracted from the raw material, and the products thus obtained, or those purchased abroad, are further purified; in the chemical department the manufacture is chiefly carried on in these three directions:

Some particularly valuable constituents are isolated from the essential oils, and produced in the pure state;
 Chemical compounds of these constituents, which are employed in the perfumery trade, the manufacture of liqueurs, or for medicinal purposes, are obtained by means of chemical reactions and processes; and
 Valuable perfumes are produced by purely chemical means from raw materials which are not related to any essential oils

The constituents of essential oils which find employment as chemically pure bodies, can in some cases be abstracted from the oils simply by mechanical means, either by frequently repeated fractional distillation in vacuo carried ont systematically, or, if they solidify at a low temperature, by repeatedly freezing out the oils as such, or in a suitable solvent. The other constituents are then removed by separating them off in rapidly revolving centrifuges. In this manner menthol is obtained from prepermint oil, fuges. In this manner menthol is obtained from peppermint oil, thymol from ajowan oil, eucalyptol from eucalyptus oil, anethol from anise, fennel, or star anise oil, safrol and camphor from camphor oil, &c. But the process of purification is then in many instances not yet completed; one or more crystallisations from readily volatile solvents such as alcohol, ether, or petroleum ether, must still follow, before the preparation answers every requirement with regard to purity. As the above-mentioned solvents are very volatile and extremely inflammable, this crystallisation process takes place in a detached hulding situated at some distance from takes place in a detached building situated at some distance from the others. By lighting this building from outside, and having the motive power for driving the necessary agitating and dissolving apparatus also outside, all electric conductors and motors which might be the cause of fire are banished from the workrooms themselves. The crystallisation takes place in a cellar in which the temperature is kcpt specially low by means of a refrigerator.

The separation of individual substances cannot always be accomplished in the mechanical manner just described, and for

this reason it is often necessary to take advantage of the chemical properties of a substance, in order to isolate it from the oil. For instance, phenols are converted into alkali salts, aldehydes into



F1G. 5.

bisulphite compounds, alcohols into certain esters, so as to extract them from mixtures with other bodies. In this manner are obtained the phenols eugenol and carvacrol, the aldehydes citral and citronellal, the alcohols linalol, geraniol, and citronellol.

The esters of these and other alcohols, which are obtained from the alcohols with the corresponding acids, are highly valued as perfumes. We may mention as such linally acetate, and the

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salicylic acid esters of methyl and amyl alcohol. The valerianic acid esters of menthol and borneol, which are employed for medicinal purposes, have a less pleasant odour.

medicinal purposes, have a less pleasant odour.

Constituents of essential oils, which in themselves are perfumes, are also frequently used as crude material for other more valuable perfumes. Thus, safrol is converted by oxidation into heliotropin, which again can be converted further into protocatechuic aldehyde and vanillin. But the same vanillin is also obtained by the oxidation of eugenol. The not very pleasantly smelling oil of turpentine is converted by suitable treatment into terpineol, which is highly esteemed in the perfumery trade on account of its lilac odour. A further category of perfumes is produced from materials which have nothing at all to do with essential oils. As an example may be mentioned coumarin, which is built up out of carbolic acid, acetic acid, anhydride, and chloroform. Benz-aldehyde, cinnamic aldehyde, benzyl alcohol, and artificial mustard oil also belong to this class of bodies.

For the manufacture of all these and many other products of For the manufacture of all these and many other products of which the enumeration would carry us too far, a large number of modern apparatus are employed, which are housed in the four separate factory buildings of the chemical department. They comprise single stills arranged for steam distillation, vacuum distilling apparatus with the vacuum pumps belonging thereto, centrifuges, filtering and hydraulic presses, exhausters, agitators, dissolving and mixing apparatus, shaking machines, drying stoves, ball mills, monte-jus, ice-making and refrigerating machines.

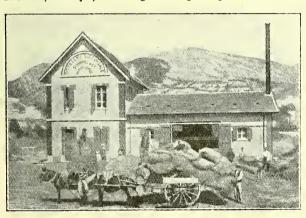


Fig. 6.

A special building contains the research and analytical laboratories—seven large, light and airy work rooms, each for two or three chemists; further additional rooms for weighing and combustion, cellars for storing chemicals and glass ware. This building also contains the collection of drugs and chemical Ints building also contains the collection of drugs and chemical preparations, which includes many objects of ethnological interest, and finally the library with more than 3,000 volumes and some 1,000 pamphlets, reprints, and dissertations. Here are found the most important chemical journals, some right from their first issue, and a complete collection of the pharmacopeias of all countries; chemical, botanical, pharmacognostical, medical, and technical cyclopedias, and 60 journals published in various languages, permit of a ready reference on all questions dealing with our branch.

In the laboratories, scientific work in the domain of essential oils is carried on, and new processes are worked out for the production of perfumes. The knowledge of the composition of valuable essential oils which has here been obtained by their examination, essential ons which has here been obtained by their examination, has led to the synthetic production of numerous blossom-oils. Of these we may mention rose oil, ylang-ylang oil, lilac oil, hyacinth oil, jasmine oil, orange blossom oil, cassie blossom oil, clove-carnation oil, wallflower oil, narcissus oil, and others.

In the analytical department every oil received is tested for its purity and quality, and its value ascertained; every product which is sent out from the factory is also examined, and has its properties determined. Only in this manner has it been possible to obtain data for judging foreign distillates and detecting adulterations, and to work out a large number of methods of examination of essential oils which are now recognised and employed all over the world. Our analytical laboratory is at the disposal of our clients,

world. Our analytical haboratory is at the disposal of our cheins, free of charge, for valuing essential oils and perfumes, and ample use is made of such opportunity.

We publish the results of our scientific researches and practical examinations in our semi-annual Reports, which in the commercial part keep our clients in touch with the occurrences on the world's markets, whilst the scientific part discusses all work that has even the remotest connection with our branch of industry.

Serum Department.

In the year 1904 our firm acquired Dunbar's patents for the manufacture of a serum against hay-fever, which has since been placed on the market under the registered name "Pollantin." Professor Dunbar, Director of the State Hygienic Institute of Hamburg, had experimentally demonstrated with certainty the relationship between hay-fever and the occurrence of grass pollen (already established by the first observers of this disease), and on this relationship had based his serum-therapeutics. His method consists in this, that healthy horses which by previous experiment have been found to be sensitive towards the hay-fever toxin, are injected hypodermically in increasing doses with aqueous triturainjected hypodermically in increasing doses with aqueous triturations of grass-pollen or pollen of other plants which cause hay-fever (such are, for instance, the Ambrosia and Solidago species which come under consideration for the autumnal catarrh in North America). The horses usually react on the injection by local and general symptoms, and when the injection of pollen extracts has continued for several months, sufficient quantities of antitoxin have been formed in their serum, so as to serve (after several small samples of blood have been previously drawn for testing) for the production of serum. The injections are made and likewise the blood is drawn by an Assistant of the State Veterinary Institute of Leipzig University, who controls the state of health of all the horses serving for the serum production. The determina-tion of the antitoxin-content is carried out, every time before the blood is drawn, and also the test of the prepared pollantin for freedom from germs made by Professor Dunbar in Hamburg, without whose special permission a serum is neither obtained, nor placed on the market. The antitoxin-content is measured, by comparison with normal solutions of hay-fever toxin and serum, on the eyes of a hay-fever patient who submits himself to this test.

The horses serving for the serum-production are kept in a stable covering nearly 3,500 square feet, with stalls for 14 horses, which has been built on the fields belonging to the firm. An isolating stable with separate entrance has been arranged for the observation of newly-arrived horses, and a special room is also used for making the injections, for operations which may be necessary, &c. Adjoining the stable is a covered, strongly built riding-ground to afford the exercise for the horses, necessary for the formation of the blood; the covered in surface measures 46×100 feet, whilst there is also an open space of nearly 1,000 square feet. The drawing of the blood takes place in a small corrugated iron shed adjoining the research laboratory, which has been arranged specially for the purpose in order to avoid as much as possible the carrying about of the blood. In this building the whole of the further manipulation of the blood, i.e. separation of the serum, evaporation in vacuo, pulverising, mixing, filling, is carried out. All the rooms and installations in which the serum is handled are An the rooms and instantations in which the serum is handled are specially adapted to the delicate nature of the material: they are situated on the first floor. The whole of the work with the inoculation-material, the serum, etc., is carried out with due observation of the rules of asepticism. A special room serves here for the treatment of the fresh serum, and the bacteriological control of the preparations. The pulverised pollantin is weighed off and packed by means of a mechanically operated Kilian machine of a capacity of 100 doses in 5 minutes, or about 1,000 doses per hour, which ensures the uniformity of every dose.

Social Welfare.

Much could be written regarding the institutions which the firm have founded in the interests of the well-being of the staff and workmen, numbering over three hundred. Detached villas and semi-detached houses are occupied by the employees in a beautifully situated village adjoining the works. A fine club house is a much appreciated feature in the welfare organisation. The social conditions under which the workmen live are a model of their kind in Germany, and that they are appreciated is shown by the statistics of the length of time the workmen have been with the firm. This section of the firm's business is treated at length in the booklet from which these particulars are abstracted.

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The Opinion of an Expert

From

E. F. HARRISON, B.Sc. (Lond.), Ph.C., F.I.C., F.C.S.

Analyst, Assayer, and Consulting Chemist,

55 Chancery Lane, London, W.C.
Jan. 11th, 1909.

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In judging the value of a malt extract, the principal points to be taken into consideration are its purity, and its diastasic power; further considerations of importance are the proportions of proteids and of soluble carbohydrates which it contains, and the possession of an agreeable flavour. The usefulness of the extract as an aid to digestion depends on its diastasic power, and its direct value as a food depends to a large extent on the proportion of proteids present.

I find the "Dia Malt" to be a pure extract of malt of the highest quality; careful search did not reveal the presence of any foreign ingredient. In determining the diastasic power I followed (with a little modification necessitated by the high diastasic power of the extract) the method given in the British

The British Dia Malt Co

Regarding Dia Malt.

Pharmaceutical Codex and described rather more fully by myself in a paper published in 1906. Expressed in the units defined in that paper, the diastasic power of "Dia Malt" was 1392—that is, under the conditions of the test, it completely digested practically fourteen times its own weight starch in half an hour. This is a much higher digestive power than was shown by any other malt extract: the next best (an article sold under a proprietary brand at a somewhat high price) showed a diastasic power of 920, and the next one to that a power of 601; the various other extracts sold under particular brands showed descending powers, the weakest having a diastasic power of only 59; while two of the extracts supplied in bulk reached the low figures of 46 and 33 respectively, and two others had no diastasic power whatever.

The proportion of proteids which I found in the "Dia Malt" was 5.8 per cent., a figure which was only slightly surpassed by one extract and equalled by one, the others showing various amounts down to 4.0 per cent. Practically the whole of the remainder of the solids of the "Dia Malt" consisted of soluble carbohydrates. It possesses an excellent flavour and is highly palatable.

These results show the "Dia Malt" to be a thoroughly satisfactory preparation, of the highest degree of excellence.

I am, gentlemen, yours faithfully,

(Signed) E. F. HARRISON.

11 & 13 SOUTHWARK ST., LONDON, s.E.

An Open Letter about Dia Malt.

Supplementary to the opinion formed by Mr. E. F. Harrison as the result of scientific investigation and in practical corroboration thereof, we append a copy of a letter received by us on January 20th, 1909, from a gentleman of scientific training connected with an important branch of chemical industry:—

London, N.W.

THE BRITISH DIA MALT CO.

Dear Sirs,

It is my sincere desire to record to you my most heartfelt thanks for the benefit and great blessing of renewed health my wife and members of my family have received from partaking of your Malt Extract.

For the past three years I have consulted the best medical skill in London, but I regret to say without any good result.

After only two weeks on the Malt they all picked up, and now after one month my wife walks out, and can take her house duties with pleasure and comfort. She now appreciates the joy of life and living.

As a husband and father I recognise it is my duty to record these facts, and if you can be the means of conveying such truths to our fellow creatures I shall indeed be very grateful to you.

Pardon me, please, in addressing you, but I feel so pleased to do so; and if my honest testimony is of any value, make the best use of it for humanity's sake.

Believe me to be,

Yours most sincerely,

W. RAMSAY-RAMSAY.

This letter is reprinted here solely as evidence of the diastasic activity and proteid value of Dia Malt, which can be appreciated by pharmacists. It is a preparation which they have credit in selling.

The British Dia Malt C?

11 & 13 SOUTHWARK ST., LONDON, S.E.

WRIGHT, LAYMAN & UMNEY

Wholesale Druggists & Manufacturing Pharmacists SOUTHWARK :: LONDON, S.E.

Ltd.

Your orders during the year 1909 will be appreciated, and the filling of same will be under the supervision of pharmacists.

Our business is under the personal control of Pharmaceutical Chemists in all its departments

General Control of Business
(Manufacturing & Analytical Departments):

JOHN C. UMNEY, F.C.S., Pharm. Chemist,

Fellow of the Society of Public Analysts, Chairman of the Chemical
Section of the London Chamber of Commerce, etc.

Drug Market, Warehouses, &c.-Chief Director:

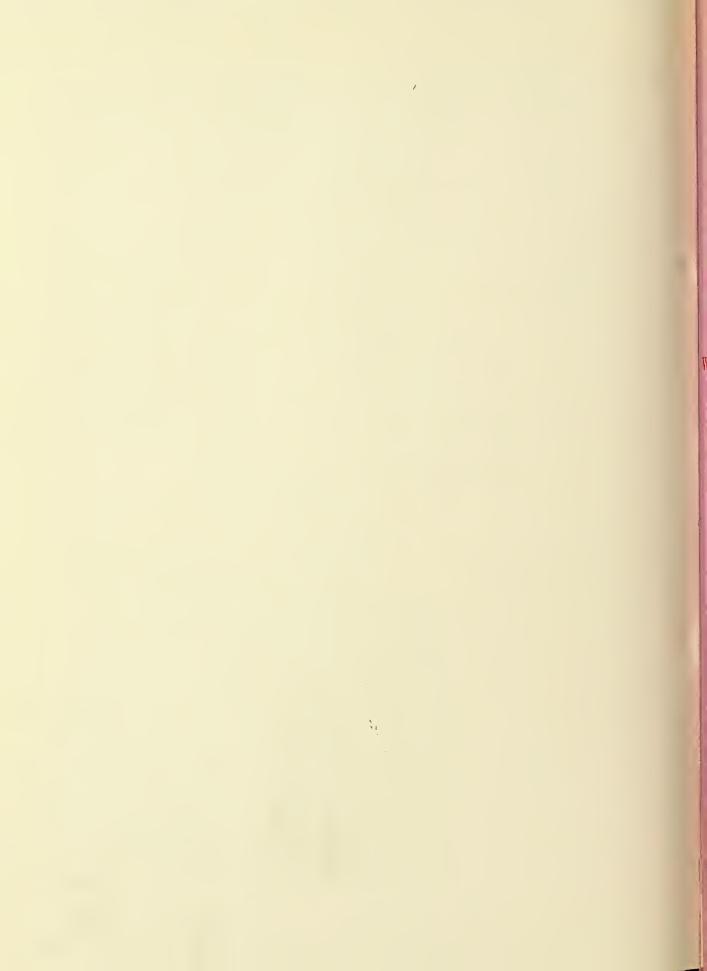
HERBERT CASSIN WRIGHT, Pharm. Chemist.

Director of Manufacturing Laboratories:

ERNEST A. UMNEY, Pharm. Chemist.

Analytical Department:

C. T. BENNETT, B.Sc. Lond., A.I.C., Pharm. Chemist W. S. FLICK, Pharm. Chemist.



BRUNNER, MOND & CO. LIMITED.

NORTHWICH, CHESHIRE.

Crescent



Brand.

A PURE SUBSTITUTE

For Chalk, Whiting, Limestone, Marble, &c.

We strongly urge all Mineral Water Manufacturers not now using Bicarbonate of Soda, before committing themselves to Whiting for the coming Season, to try a 2 cwt. Bag of our Bicarbonate of Soda, which we shall be pleased to send off carriage forward on receipt of Postal Order for 10s.

MINERAL WATER BICARBONATE

SPECIALLY MADE FOR THE PRODUCTION OF CARBONIC ACID GAS FOR AERATED WATERS.

= ADVANTAGES =

NO Alteration of Plant necessary.

Great economy of Time and Labour is effected.

Great Cleanliness in Manufacturing is ensured.

The same Generator will yield THREE TIMES the amount of Carbonic Acid Gas per Charge.

The same quantity of Sulphuric Acid will yield TWICE THE AMOUNT of Carbonic Acid Gas.

There is NO SEDIMENT in the residual liquors, and consequently no Mud to deal with.

A Marketable Bye = Product (Glauber Salts) can, if desired, be obtained.

First-Class Waters are produced.

BRUNNER, MOND & CO.



LIMITED, NORTHWICH.

Instructions for Using Bicarbonate of Soda in making Mineral Waters.

PRODUCTION OF CARBONIC ACID GAS.

PROPORTIONS TO BE USED:

1 cwt. Bicarbonate.
Minimum quantity of Water: 17 to 20 gallons.
3\frac{3}{4} gallons (say 68 lbs.) Sulphuric Acid of 167 Twaddle.

These quantities give about 58 lbs. Pure Carbonic Acid Gas.

THE METHOD OF CHARGING the Generator, and of running in the Acid, is exactly the same as when Whiting or Chalk, etc., are used; no agitation is required except at the very end of the charge. About 50% more bottles, or half as many again, will be charged than with the same weight of Whiting.

A Generator capable of holding 1 cwt. of Whiting, 36 gallons of Water and 6½ gallons (1 cwt.) of Acid can be charged with 2 cwts. of Bicarb., 34 gallons of Water and 7½ gallons (1½ cwt.) of Acid. This will yield three times as much Carbonic Acid Gas as is given by the Whiting process, and consequently three times as many bottles per charge—an immense advantage where space is limited and when business is brisk.

It will be seen from the proportions given above that only about *two-fifths* of the Acid and two-thirds of Bicarbonate (weight for weight, as compared with Whiting) are required to produce the same amount of Carbonic Acid Gas.

The proportion of Water can be varied according to circumstances. With the above proportions the liquor from the Generator (which liquor is always perfectly clear and free from sediment), will, if run into tubs or into crystallising pans, crystallise in about two hours at ordinary temperatures. The Crystals obtained are Glauber Salts, a readily saleable article, in place of the mud from Whiting, so disagreeable to handle, and so difficult to get rid of.

When the minimum quantity of water is used the liquor should not be allowed to stand in the Generator after work is finished, or the Glauber Salts will crystallise in it and cause delay by having to be dissolved out with water, or otherwise removed, before a fresh charge can be inserted. If it is not wished to recover the Glauber Salts, fill up the Generator with water after the charge is worked off, or work with more water in the original charge.

If the residual liquors are disposed of by pouring them down a drain, it is advisable first to dilute them with water, or to pour water down the drain either at the same time as, or immediately after, the liquors, in order to prevent a possible blockage of the drain-pipe by crystallisation.

Mineral Water Manufacturers who use the above process might, with advantage, send their Glauber Salts to the firms who supply them with their Acid.

BRUNNER, MOND & CO. LIMITED, NORTHWICH, ENGLAND.



Supplement to the Chemist and Daugolat Legislay 20th 1909

Perfumers to Her Majesty

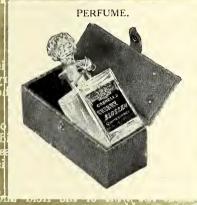


Queen Alexandra

14 . 0 0 0 0 0 0 0 0 0

LATEST NOVELTIES

CHERRY BLOSSOM QUINTESSENCE.



10,0165 ? In 2-oz, cut créstal bottle, enclosed in Casket of cerise chamois leather. 144/- per doz. No. 164. Ditto, without case, 90/- per doz.

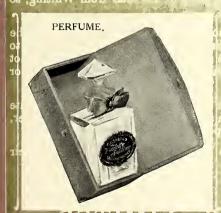


No. 581. Each Tablet gold stamped and enclosed in a Jewel Case of cerise channois leather.
67/6 per doz.



No. 367. Delightful Toffet Powder enclosed in a Jewel Casket of certise channois leather 67.6 per doz.

VIOLETTE SUBLIME QUINTESSENCE.



No. 174. An extra concentrated true Violet Periume, put up in a 3-oz cut crystal bottle, gold label, and enclosed in a violet Suede leather case. 144, - per doz.



No. 592. Extra concentrated perfumed Soap, gold stamped, enclosed in a case of violet Suede leather. 67,6 per oz.



No. 386. A rare Face Powder, delightfully perfumed, stylishly packed (gold label) and enclosed in a case of violet Suede leather. 676 per doz.

JOHN GOSNELL & CO., Ltd.,

101, SOUTHWARK STREET, LONDON, S.E.

JOHN GOSNELL & CO., Ltd., 101, SOUTHWARK STREET, LONDON

LONDON, S.E.

BLOSSOM. CHERRY

QUINTESSENCE.



No. 166. 2 oz. cut glass bottle, with pure silver cup mounting and gilded label.

| 144/- per doz. | per doz. | Without silver | No. 167. 4 oz. bot. 120/- No. 168. 8 oz. | 200/- No. 169. 16 oz. | 366/-Without

LOTION.



No. 145. An Eau de Toilette and Lotion combined, put up in an artistic bottle with patent crystal sprinkler; embossed chromo label.

No. 145. 5.oz. bot. . 18/- per doz. No. 146. goz. " 26/- "

TRIPLE EXTRACT.



No. 27 Perfume, put up in a crystal bottle, with embossed label, enclosed in an imitation leather box with gold embossed design.

22/6 per doz. 1 oz. bottles

VIOLETTE SUBLIME (LOTION).



No. 139. Eau de Toilette and Lotion combined, delicately perfumed, put up in an 8 oz. artistic bottle with a patent crystal sprinkler. 36/- per doz.

SOAP.



No. 583. In Cartons of \(\frac{1}{3} \) doz., 6d. size \(\frac{4}{6} \)

No. 584. In Cartons of \(\frac{1}{3} \) doz., 1/- size \(\frac{9}{7} \)

Wrappers printed in black.

No. 585. In Cartons of $\frac{1}{4}$ doz., 2/- size 18/-Transparent Wrappers, each tablet stamped in gold.

"FAMORA FOAM."



The Ideal Dry Shampoo Hair Wash and Hair Tonic combined. In stoppered bottle with patent sprinkler.

No. 300. 4 oz. bot. 22/6 per doz. No. 301. 8 oz. ... 45/- ...

"SOCIETY" PERFUME.



No. 152. New Perfume, put up in a 12 oz. cut crystal bottle, gold label, with a patented spray to prevent leakage in travelling. 31/6 per doz.



No. 154. Perfume, put up in a 12 oz. cut crystal bottle, gold label, and enclosed in a morocco leather case. 31/6 per doz.



No. 153. Perfume, put up in a cut crystal bottle, with a gold mount cap and gold label. 31/6 per doz.

JOHN GOSNELL & CO., Ltd., 101, SOUTHWARK STREET, LONDON

LONDON, S.E.

VIOLETTE SUBLIME QUADRUPLE EXTRACT.



No. 172. A true Violet Perfume, put up in a 22 oz. cut crystal bottle, enclosed in a silk casket, adorned with an artistic label of Louis XVI. style. 72/- per doz.

SOAP.



No. 590. Highly-perfumed transparent Soap, wrapped in silk, and enclosed in a silk case of Louis XVI. style. 22/6 per doz.

TOILET POWDER.



No. 383. A delightfully perfumed Powder, richly packed, and enclosed in a silk case of Louis XVI. style. 22/6 per doz.

JEWEL OF ASIA.

PERFUME.



No. 160. In cut crystal bottle and each bottle in fancy oval case.

13/2 oz. in bottle 22/6 per doz.

No. 158. In round stoppered bottle and each bottle in square box.

18/- per doz.

POWDER.



No. **357.** Obtainable in three tints, White, Rose, Rachel. **6** 9 per doz.

SOAP.



No. 546. In fancy oval boxes of 3 tablets. 6/9 per doz.

"SOCIETY" EAU DE COLOGNE-PERFECTION IN PERFUMERY.



No. 107. 4 oz, bottle, with gilt corkscrew. Price, 18/- per doz.



No. 108. 9 oz. stoppered bottle. 36/- per doz.



No. 558. Three tablets in a box 4/6 per doz. tablets.

JOHN GOSNELL & CO., Ltd., 101, SOUTHWARK STREET, LONDON

FRAGRANT SERIES.

SOAP.

LONDON, S.E.

PERFUME.



No. **85**. Put up in fancy stoppered bottle, each bottle in a casket. **9**/- per doz.

Obtainable in the leading perfumes, viz.:—
White Rose, Jockey Club.
New Mown Hay, Carnation, Wallflower, Lily of the Valley, Heliotrope.

No. **85**. Put up in fancy stoppered bottle, each stoppered bottle, and the stoppe

" FAVORITE" PERFUMES.



No. **564.** Exceedingly emollient, highly refined and finished, trebly milled, exquisitely scented with "Fragrant" Series Perfumes. Absolutely pure and neutral. Obtainable in the leading popular perfumes. 3 tablets in a box. **3/6** per doz. tablets.

TRIPLE EXTRACT.

POWDER.



No. **351.** Obtainable in three tints, viz White, Rose, Rachel, And in all the leading perfunes as the "Fragrant" Series Perfunes, No. 85. **36** per doz. boxes:

COUNTRY GARDEN PERFUMES



No. **96**. A very effective series of 14 leading Perfumes in glass stoppered bottles, each enclosed in a box of Louis XVI, style, with embossed and gilded labels. **8/-** per doz.

HONEY SAND SOAP.



No. **30.** Our renowned Triple Perfumes in crystal bottles, each in a case.

No. **30.** 1-oz. . . **22.6** per doz.

No. **31.** 2-oz. . . **36.-** ,,

No. **32.** 4-oz. . . **66.-** ,,

CHERRY TOOTH PASTE.



No. 48. A series of 6 new Perfumes, relations, but less each in a case. 13 6 per down Perfumes.

Crimson Rambler.

Meadow Blossom.

Sweetbriar.

No. 48. A series of 6 new Perfumes, relations, less than a case. 13 6 per down less than a case. 13 6 per down less than a case. 13 6 per down less than a case. 14 for less than a case. 15 for less tha

EAU DE QUININE.



No. 594. Three tablets in a box 3/6 per doz. tablets.



No. 414. The Original Cherry Tooth Paste, in bandsonie Bronze Pots. 16 size, price per doz, 13 6
No. 414. Extra moist, in Black and White Pots to distinguish it from the first-named.

PRICES. 1- size . 9/per doz, 3d size . 19 ...

And in Decorated Tubes, 411 and 412
5/- and 9 - per doz.

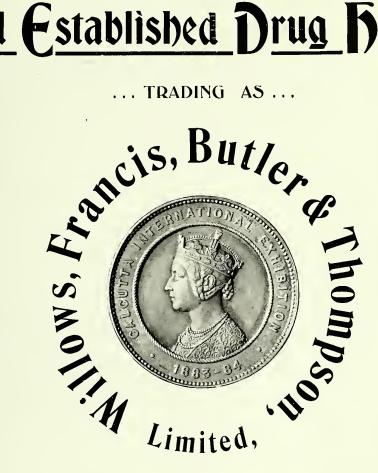


No. 320. 4 oz. bottles, with patent sprinkler and unalterable label.

8 - per doz.

A COMBINATION

Old Established Drug Jouses



40, Aldersgate Street, LONDON,

REPRESENTING THE FOLLOWING:

WILLOWS, FRANCIS & BUTLER;

HERRINGS & COMPANY;

HENRY AYSCOUGH THOMPSON & SON:

Mackey, Mackey & Co., Ltd.



Mr. CHARLES BUTLER.
Chairman & Managing Director.



Mr. H. AYSCOUGH THOMPSON.
Director & Secretary.



Mr. ERNEST C. BUTLER.
Controller of Laboratory.



Mr. HERBERT J. WILLOWS.
Warehouse Manager.



Mr. JESSE WILLOWS.

Formerly Senior Partner and a Director of the Company until quite recently.



Mr. T. HARPER FRANCIS.

Director and formerly Controller of Laboratory.

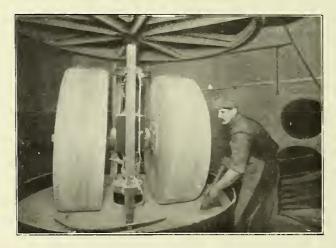
AS stated on the cover the company of Willows, Francis, Butler, and Thompson, Ltd., is an amalgamation of four well-known and old established firms of wholesale druggists. That of Willows, Francis and Butler was established as far back as 1751, and, so far as we are able to ascertain, was carried on without interruption at 101, High Holborn until February 9th, 1898, when the premises were entirely destroyed by fire together with the whole stock, including that of Henry Ayscough



One of the Analytical Laboratories.

Thompson & Son, with whom an amalgamation had taken place a few weeks previously. It was the untoward occurrence of this fire that led to the purchase of Messrs. Herrings & Co.'s business and had it not been that this opportunity presented itself of taking over, as a going concern, a fully equipped laboratory, and premises generally, the results of the fire would unquestionably have been much more serious than they

actually were. Perhaps one of the foremost matters of Pharmaceutical interest attaching to this firm is the special attention they have bestowed on the preparation of Animal Extracts from the earliest time at which these substances were first employed in medical treatment and in connection with this work they have been most fortunate in obtaining the advice of some of the first physiologists of the day, for whom also they have had the honour of preparing samples for scientific investigation. All Galenical preparations have for many years claimed their special attention also,



One of the Mills.

and they were among the earliest to avail themselves of the advantages of Physiological Standardisation.

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THE senior partner of the old firm, Mr. Jesse Willows, ceased to take an active part in the management when the business was turned into a limited company on January 1st, 1904, and the same may be said of Mr. Thomas Harper Francis, who for many years had control of

the laboratory, he is, however, still a director, as was Mr. Willows until recently. The Board at present consists of Mr. Charles Butler, chairman and managing director, Mr. T. H. Francis, Mr. Henry Ayscough Thompson, Mr. Herbert John Willows (a nephew of Mr. J. Willows), and Mr. Ernest Charles Butler (a son of Mr. C. Butler).

Mr. Charles Butler mainly interests himself in the buying and the general warehouse arrangements. He is seldom absent from his accustomed place at the drug sales and is generally to be seen on Change,



Town Wet Floor.

He is assisted in his department by Mr. H. J. Willows. The secretarial duties and the supervision of all the office arrangements fall on Mr. Thompson, while Mr. E. C. Butler controls the manufacturing part of the business, having for his assistants capable and well qualified men.

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WE now pass on to Herrings & Company, and, incidentally, it is very appropriate that this little historical sketch should appear at the present time because it is exactly a century since the business was

founded at 40, Aldersgate Street, by the late Mr. Thomas Herring, whose portrait we are fortunately in a position to give. This gentleman took



The late Mr. THOMAS HERRING.

a keen interest in all matters connected with the practical side of the business and was President of the Pharmaceutical Society in 1851.



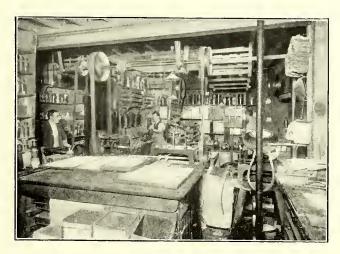
Portion of Country Wet Floor.

There are few houses in the drug trade probably to which greater interest attaches on account of its past associations and our readers



Part of Steam Laboratory.

would be surprised to know the names of those who have risen to high positions, not only in pharmacy but in other spheres, who began life in



Pill Room.

the laboratory at 40, Aldersgate Street. The business was carried on by successive members of the Herring family from its foundation down to

March 1st, 1898, when it passed into the hands of the present proprietors. This change, however, was merely nominal as all the old traditions of the house have been most jealously guarded and the great aim of the present management has been to let everything run on upon exactly the same lines as in the past with the exception of certain minor innovations rendered necessary in order to keep the business abreast of the times and capable of meeting all the requirements in this present age of progress.



One End of Dry Floor.

It was in 1847 that the late Mr. Henry Ayscough Thompson founded his business and he continued to take the active management of it at 22, Worship Street, Finsbury, up till 1892, when failing health and advanced age compelled him to retire, his place being taken by his son who had joined him in partnership some ten years previously. Mr. Thompson, Junr. went into his father's office straight from school in the early seventies, leaving again later on for the laboratories of the Pharmaceutical Society where he worked for two years, after which he returned

again to take up a responsible position in the practical part of the business. He is now a director of the present company.

As is generally known it was especially in connection with concentrated infusions, decoctions, liquors, etc., that the late Mr. Ayscough Thompson's name was so closely identified, he having devoted so much thought and personal work upon them in his earlier days before bringing them to the pitch of excellence which he ultimately did and which gained for him such an extensive custom, not only in Great Britain but in various parts of the world.



A Packed Goods Room.

THE firm of Mackey, Mackey & Co., Limited, was absorbed into this combination in November, 1901. The business was for some time carried on in Bouverie Street but was moved later to Grange Road, Bermondsey, where it remained until the amalgamation. It was principally known on account of its preparations of Bismuth and Cerium, also numerous other specialities which are still largely used and appreciated.

In addition to the portraits of the active members of the Company on page 2 of Cover, those also of their esteemed representatives are shown on the following page, and it is believed that they will be of interest to their many friends in the trade.



Corner of Tablet Room.

Recently the Company sustained a severe loss to their travelling staff by the death of Mr. George Elliott Lovegrove, who represented them in the Northern and Eastern counties. Mr. Lovegrove had been in the service upwards of thirty years, and his memory will doubtless long be cherished, not only by his employers, but by many of their customers upon whom he took so much pleasure in calling.

Again, but a few months ago, Mr. F. H. Ponting passed away after a few days illness. Mr. Ponting had represented the one interest in the West End of London for nearly 20 years, calling almost entirely upon pharmacists, by whom he was much respected.





MR. C. E. PARSONS.



Mr. J. A SAUNDERS.



Mr. L. G. MEE.



MR. J. E. FIELD.



MR, J. THOMPSON.



MR. W. RYMAN.



Mr. J. CAMPBELL CARTER.

REPRESENTATIVES OF THE COMPANY.





LONDON.

WHOLESALE & EXPORT DRUCCISTS

DISTILLERS OF ESSENTIAL OILS

MANUFACTURERS OF PHARMACEUTICAL PREPARATIONS.







Proprietors and Manufacturers of all preparations used in the famous

"HARLENE HAIR DRILL."

"HARLENE."

FOR THE HAIR.

Retail. Wholesale.

No. 1 size 1/- 11/- doz.

,, 2 ,, 2/6 27/3 ,,

,, 3 ,, 4.6 47/- ,,

"UZON."

BRILLIANTINE

Retail. Wholesale.

1/- ... 11/- doz.

2/6 ... 27/3 ,,

"CREMEX."

SHAMPOO POWDERS.

Retail. Wholesale

1/- ... 11/- doz.

Per box of 8 Powders.

SPECIAL.—FULL DISCOUNT OF 20% OFF TRADE PRICES TO ALL BUYERS OF £2 (NET.),
CASH WITH ORDER. CARRIAGE PAID.

We are prepared to supply goods to the value of £2 (net.), cash with order, as a trial stock. With this we will include good supply of costly dummies, showcards. &c., for exhibition, to assist the sales. This £2 parcel may be assorted according to customer's wishes, and is subject to full trade discount of 20%.

Fully illustrated Price List, quoting all productions, sent post free on application to:

EDWARDS' HARLENE CO., 95 & 96, High Holborn, LONDON, W.C.

"HARLENE HAIR DRILL."



REASON AND RESULTS.

If an article of toilet becomes in great demand, there must be a reason for it. It is either the sterling properties of the article in question, conscientious recommendation, or else it is caused by extensive advertising. "Harlene," for "Hair Drill," is in that pleasing position, owing to its popular and scientific method, its sterling properties, and successful and convincing publicity.

That is the Reason, and the Result!

Arising from this is an increasing demand for "Harlene Hair Drill" preparations which every chemist should be prepared to meet. If you do not notice any alteration in your sales, it is evident that the public are not aware that our goods are obtainable at your premises. May we send you some showcards and dummies to remind your customers? We shall be pleased to do so upon receipt of postcard. If you have never stocked our goods we should like

to draw your particulars of this attention to the on other side inset.

Solo Manufacturers:

EDWARDS' HARLENE CO.,

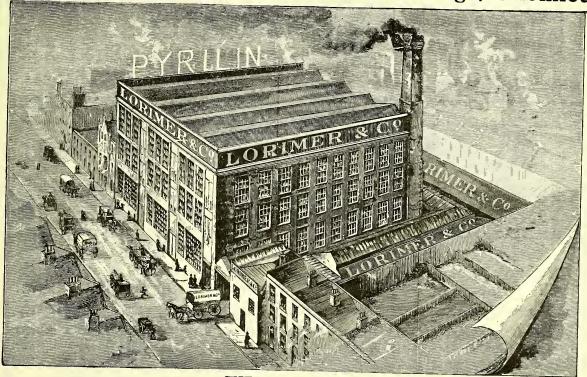
95 & 96, High Holborn, V.C

LORIMER & CO

LONDOR

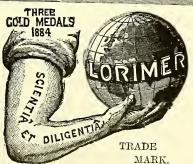
(H. BROCKLESBY, Sole Managing Director)

Britannia Row, ISLINGTON, N. HIGH CLASS PACKED SPECIALITIES: Ferri et Quininæ Citras, Pepsine in Scales or Powder, Malt Extract, Medicated Lozenges, Capsules.
All Pharmaceutical Preparations . Drugs, Chemicals



Secretary: H. MARKHAM BROCKLESBY.

Chief Analysts: T. G. JOYCE, B.Sc., F.I.C., F.C.S. C. M. W. GRIEB, B.Sc. (Lond.), A.I.C., F.C.S.



Telephone-524, NORTH.

Telegrams or Cable-"CALISAYIN LONDON."

Code-A.B.C., 5th Edition.

(AWARDED SIX GOLD AND PRIZE MEDALS.)

SOUTH AFRICA, from Cape Town to the Zambesi.

FNNON LIMITED

Established in-

SOUTH AFRICA

CAPE COLONY

Cape Town Port Elizabeth East London Kimberley Graaff Reinet Allwal North Beaufort West Mafeking

Oudtshoorn Wynberg

TRANSVAAL Johannesburg

Fordsburg Germiston Doornfontein

NATAL

Durban **ORANGE RIVER**

COLONY

Bloemiontein RHOBESIA

Paari Rulawayo Stellenbosch Sallsbury

Wholesale Druggists,

Manufacturing Chemists,

Druggists' Sundriesmen.

Dealers in

Surgical Instruments, Dental, Optical, and Photographio Goods, Perfumery, and Assay and Mining Requisites.

Contractors to the Governments of CAPE COLONY, NATAL, RHODESIA, TRANSVAAL, and ORANGE RIVER COLONY.

London Office, Warehouse, and Factory:

54 to 58 Oueen Elizabeth Street, S.E.

Unrivalled position for the introduction and handling of Specialties.

Trade

South African JOHN MURDOCH & CO.

Tel. Address: LONDON.

All Codes Used

Sussex House, 52 LEADENHALL STREET,

LONDON, E.C.

Shippers of Drugs, Chemicals, Druggists' Sundries, Patent Medicines, Photographic and Optical Goods, Surgical and Dental Instruments, Confectioners' and Mineral Waters Requirements, &c. ::

Act as London Agents for the Leading Firms of Wholesale Chemists and Druggists throughout South Africa.

Are prepared to accept Sole Agencies and energetically push good Selling Spe-

Have correspondents carrying wholesale stocks in-and make direct shipments to the following principal towns:-

CAPE TOWN PORT ELIZABETH EAST LONDON KIMBERLEY

OUEENSTOWN **OUDTSHOORN** CRADOCK

PRETORIA **JOHANNESBURG** PIETERMARITZBURG DURBAN

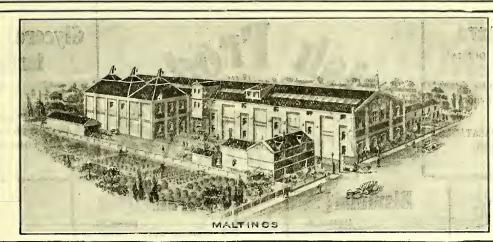
VRYHEID

BLOEMFONTEIN

Travellers constantly visit smaller towns and country districts of Cape Colony, Natal, Transvaal, and Orange River Colony.

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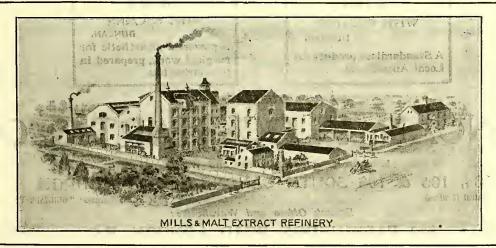
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The best substitute for Tea, Coffee, etc., and the only preparation of this kind containing Organic Phosphorus (Lecithin).

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Under 6 dozen 10/- per dozen net. Cash with order.
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The above terms for 6 dozen 1/- size, or 1½ dozen 4/- size will be given on mixed orders value £3. And our very best terms on mixed orders value £6.

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WHITE PHIALS—GOOD QUALITY.

5/6 per gross Plain or teaspoons.

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| *ALOIN COMPOUND, Sugar-coated Ammon. Brom., gr. 5 Antacid (Roberts'), gr. 5 | 9'- y- 1/9 | 3/6 3/6 3/3 | 6/- 6/- | 3/6 2/- | *Ichthyol. gr. 2½. Sugar-coated LACTATED PEPSINE Laxative, Vegetable, Sugar-coated | 4/6 4/6 3/6 | 8/6 8/6 6/- | 15/- 15/6 10/6 | 10/- 12/6 7/- |
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| Chemical Food (one teaspoon), Sugar- coated Chlorate of Potash (40 in each bottle) Chlorate of Potash and Borax | 3°3 1/6 1/6 | 5/3 | 10/- 2/6 2/6 | 6/- -/9 -/9 | Potass. Bicarb., gr. 5 | 1/6 2/3 3/- 2/- | 2/3 3/9 5/- 3/6 | 3/6 6/6 7/6 6/6 | 1/3 3/- 6/- 3/6 |
| Chlorate of Potash, Borax, and Cocaine COLD AND INFLUENZA TABLETS (containing Quinine with LAXATIVES) (30 in box) | 2/- | 3/- | 4/- | 2/- 5/- | Rhubarb, 3; Soda, 2; and Ginger, 1 Saccharine, gr. \(\frac{1}{2} \) in 1-gr. tablet (100's) Saccharine, gr. \(\frac{1}{2} \) in 1-gr. tablet (200's) | 1/9 4/- 7/6 | 3/3 | 6/- - { | 2/- 2/8 per 1,000 |
| *DAMIANA COMP. Sugar-coated (Red) DOVER'S POWDER, gr. 5 DYSPEPSIA TABLETS (CHLORODYNE CO.) **DROCKIN | 3/3 2/6 6/6 | 5/6 4/- | 10/- 7/6 | 6/6 4/6 16/- | Soda Mint (30's) | 1/6 1/3 3/3 | 5/6 | 3/- 3/- 9/6 | or 17/- per 1b -/9 -/9 7/6 |
| *ERGOTIN, gr. 3 | 4/6 3'- 2'- 3/3 | 8/6 5/- 4/- 5/6 | 15/6 9/- 7/- 10/6 | 12/- 6/6 4/- 7/- | Sulphur Comp., Garrod Urotropin | 1/6 9/- | 2/3 | 3/6 32/- | 1/3 26/- |
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Chemist's Name and Address on Blue or White Label. 12 Varieties to choose from.

Those marked * are sent sugar-coated.

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Eserine, Guaiacol. Hydrastine, Terpin-Hydrate, Hydroguinone, Lactophenine, Phenacetin,

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You get 25%

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CURRY'S Ointment. CURRY'S Herbal Pills. CURRY'S Tonic Digestive Tablets.

Face Min. Retail Min. Wholesale Price.

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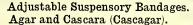
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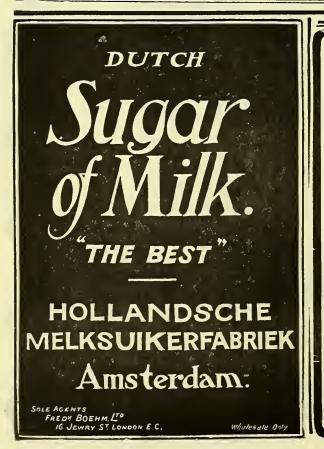
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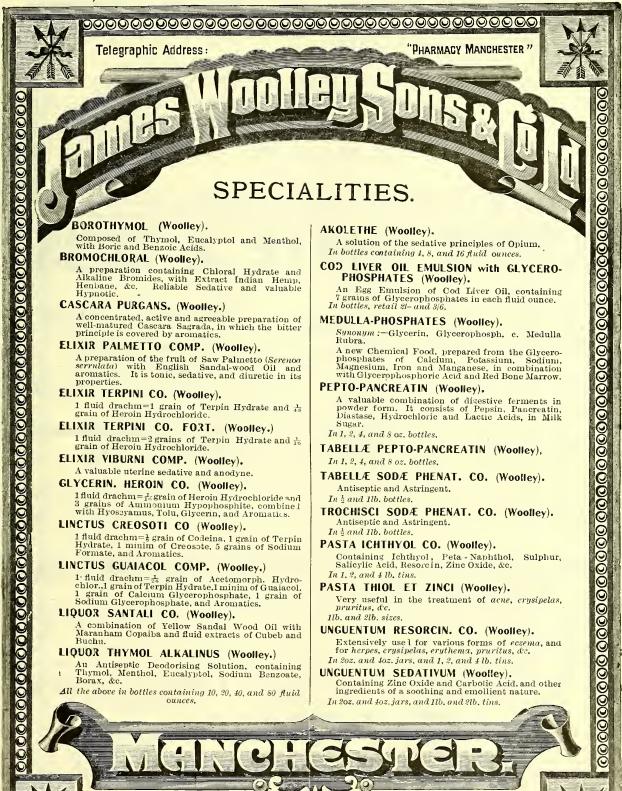
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1/1 size (9 powders) 2/9 (30 powders) 4/6 (60 powders) 11/- (216 powders)

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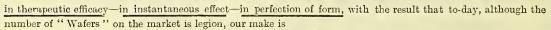
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Suitable alike for the highest class and the humblest trade, these Wafers offer superlative value to the consumer, and are the means of bringing numbers of customers to the Pharmacy, orders being repeated time after time.

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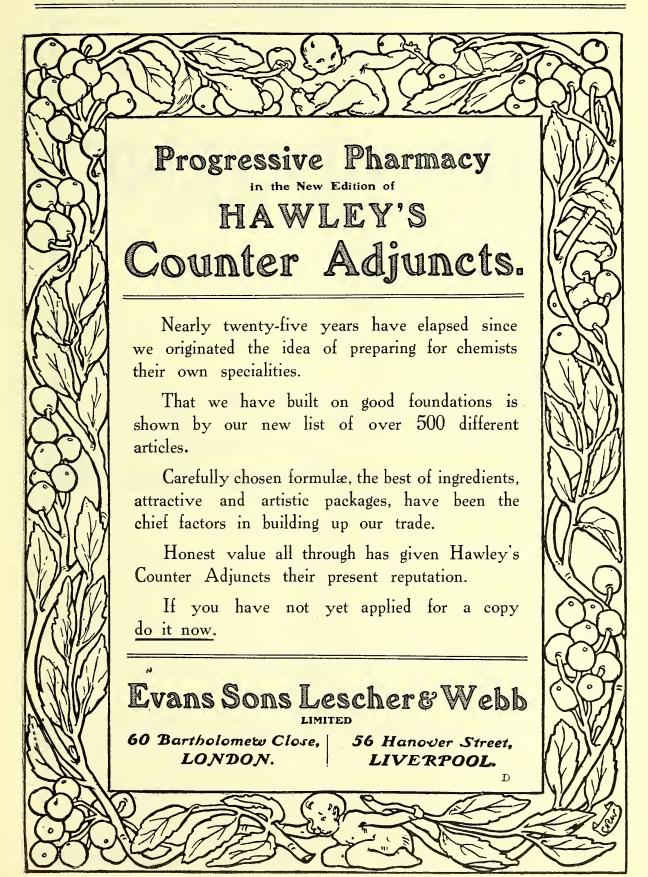
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| "Linseed Compound" | $9\frac{1}{2}d$. $13\frac{1}{2}d$. $2/9$ $4/6$ $11/-$ | $9\frac{1}{2}d$. 1/- 2/6 4/- 10/- | 8/1 10/- 25/8 40/- 104/6 | 8/6, 10/6 27/~ 42/~ 110/~ | For £5 assorted orders 5 per cent. discount, and an additional 5 per cent. for |
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| gr. viii.: Puly, Colocynth, gr. vi.; Puly, Hyd, Subchlor., gr. iv.; Sapo | | | | | |
| Hyenan gr. iv.: Gingerin, gr. iv.: Ft. Pil. xij.) 220. per gross. | | | | | |
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| Pil Back and Kidney (Oval) Celatine-coated (Ext. Buchu, Ext. UV& Urst. | | | | | |
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| phyllin or 1. Torob Venet, or 1 | | | | | |
| Pil. Castor Oil (Ol. Ricini, gr. ½; Pot. Sulph., gr. ½; Pulv. Rhei, gr. i; | | | | | |
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| Dil Color Co RP | | | | | |
| Dil Colon of Hyonor R P | | | | | |
| This was a liver and Companied (Fyt Tarayaci Ext. Althem. Puly, Rhei. | | | | | |
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| Dil Dedenbullin (Pedenbullin gr 1 · Ext. Coloc. Co., gr. 1 : Pulv. Aloes | | | | | |
| Socot., gr. j.; Pulv. Scammon., gr. 7: Sapo Hyspati., Ext. Hyssey. | | | | | |
| Gingerine, aa. gr. t | | | | | |
| 9d per apper | | | | | |
| Pil Rhoi Co R.P | | | | | |
| Pil. Quinine, gr. il Pil. Reic Co., B.P. Stomach and Liver Beam (Oval) Gelatine coated, same Formula as Pil. 5d. per gross, Reich Edward in coab Beam. | | | | | |
| Aper-, but with I gr. Calomer in each Bean | | | | | |
| Minimum quantity, 5 × 10 gross tins, which may be assorted, with the exception of Pil. Ferri, B.P. All Pills Pearl-coated | | | | | |
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| Only Morms : CASH WITH ORDER. All packages free. | | | | | |
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RED C COUGH CURE FOR CHILDREN.

It is an elegant preparation, delicions in tastc, efficacious in action, and artistically packed. Contains no Opiate; can be given to the youngest infant. We shall push the sale with money and brains. It will make a fresh, seasonable window display, with the showcards, &c., we shall send. The PROFIT is as good as if it were your own, and we guarantee to only supply to you if you are the first to apply.

SEIZE THIS OPPORTUNITY BEFORE YOUR NEIGHBOUR. BE FIRST THIS TIME; YOU WILL NEVER REGRET IT.

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| Children | 1 | 1 0 |
| Showcards, &c., for window | fre | ee |
| 250 4-leaf pamphlet entitled "Some- | | |
| thing for the Children " | fre | ee |

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This guaranteed sole agency, which will make many pounds profit per annum for you

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Orug and Chemical Merchants.=

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Importers and Exporters of Drugs, Oils, Herbs & Roots in Original Packages.

SPECIALITIES.

QUININE SALTS of recognised Purity.

Manufactured by the latest and most improved methods.

ANSWERING THE REQUIREMENTS OF THE BRITISH AND ALL OTHER PHARMACOPŒIAS.

SULPHATE. HYDROCHLORATE. HYDROBROMATE.

SALICYLATE VALERIANATE.

BISULPHATE. HYPOPHOSPHITE. BIHYDROCHLORATE.

TANNATE. BIHYDROBROMATE, &c. &c.

QUININE ETHYLCARBONATE (TASTELESS QUININE).

EXPORT ORDERS carefully Packed in Tins or Bottles of any size.

GLYCEROPHOSPHATES.

LIME.

POTASH.

IRON.

MAGNESIA, &c.

PROTEINATE OF SILVER.

PERBORATE OF SODA. IODOTHYMOL. SULFOLEOL. QUASSINE AMORPHE.

LECITHINE.

GLYCYRRHIZINE in fine Soluble Scales.

THE MOST PERFECT EXTRACT OF LIQUORICE.

ABSOLUTELY PURE.

Castor (1st and 2nd Pressings and Medicinal), Cocoa Nut, Cod Liver, Eucalyptus, Mineral Oils (White, Half-White, and Yellow), Nut (Arachide), Sesame.

PARAFFIN WAX. Superior Quality. Melting Points-118/20°, 130/32° & 132/35°.

Belgian Camomiles direct from the producing Centre. Cuttle Fish Bones in all Sizes.

Insect Flowers & Insect Powder (genuine Dalmatian).

Liquorice Juice in 3 oz. Sticks and Block Juice. Petroleum Jellies (White and Yellow). Senna Leaves (Tinn. and Alex.)

Finest Scotch & American Starch Powder

EXPORT INDENTS CAREFULLY EXECUTED.

WHOLESALE PRICE LIST UPON APPLICATION.

ISSUED WEEKLY. PRICES

Original Packages can generally be supplied at the Current Prices quoted in the Trade Report of thie paper on Terms as below.

Acid. Acetylo-Salicyl., 56 lbs. @ 2/1 lb.; 7 lbs. @ 2/3 lb.; 1 lb. @ 2/5 lb.

Acid. Benz. B.P., 7 lbs. @ 1/8 lb.; 1 lb. @ 2/- lb.

Acid. Benz. B.P., 7 lbs. @ 1/8 lb.; 1 lb. @ 2/- lb.

Acid. Benz. B.P., 7 lbs. @ 1/8 lb.; 1 lb. @ 2/- lb.

Acid. Benz. B.P. 1885, 1 cwt. @ 1/6

lb.; 7 lb. Bags @ 1/7 lb.

Acid. Citric Cryst., 8 lp. 1885, 1 cwt. @ 1/6

lb.; 7 lb. Bags @ 1/7 lb.

Acid. Oxalic, Fine White Cryst., 5 cwt. @ 3\cdot d. lb.;

1 cwt. @ 3\cdot d. lb.; 14 lbs. @ 4d. lb.

Acid. Salicyl. pulv., 1 cwt. @ 1/1 lb.; 28 lbs. @

1/8 lb.; 7 ibs. @ 1/3 lb.; phys. pure, 1 lb. @

3/- lb.

1/3 lb.; 7 lbs. @ 1/3 lb., F.S. & 1/5 lb.
Acid. Tart., cryst. or pulv., B.P., 1885, 1 cwt. @ 10/4 : 7 lbs. @ 11/4 lb : parv. ½4, lb, extra.
Adeps Benz., B.P., 28 lbs. @ 84. lb.
Ærugo Æris Exot. Pulv., 14 lbs. @ 1/- lb.
Aloin B.P., 1 lb. @ 3/9 lb.
Ammon. Benz., B.P., 7 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb.

Ammon. Brom., P.B., 1 owt. @ 1/11 lb.;

7 lbs. @4/3 lb.

Ammon. Oarb. lump, 3 cwt. @ 3§d. lb.; 28 lbs.
@4\$d. lb.; 7 lbs. @ 5d. lb.; powder, \(\frac{1}{2} \)d. lb.

extra.

Ammon. Ohlor., 99% pulv., 1 cwt. @ 33/- cwt.;

7 lbs. @ 4d. lb.; Batteries, 4/- owt. extra. Aniseed, English ground, 1 cwt. @ 35/- owt.; 7 lbs. @ 5d. lb.

Antim. Orocus Pulv., 1 cwt. @ 38/- cwt.: 14 lbs. @ 5d. lb. [33/- cwt. Antim. Orocus Pulv., 1 cwt. @ 38/- cwt.; 14 lbs. @ 5d. lb.

Antim. Nig. pulv., 1 cwt. @ 25/6 cwt.; 14 lbs. @ Aqua Anethi Conc, 1-40, 1 lb. @ 2/6 lb.

" Anisi Conc. 1-40; 1 lb. @ 2/6 lb.

" Cinnam. Jonc, 1-40, 1 lb. @ 2/9 lb. [7d. lb.

" Aurant. Trip., 53 lbs. @ 17/6; 6 lbs. @

" Rosæ Trip., 53 lbs. @ 17/6; 6 lbs. @ 7d. lb.

Oream Tartar, 98 % powder, 1 cwt. @ 76/- owt.;

7 lbs. @ 9d. lb.

*Dec. Aloes Co. Conc. 1-2, 6 lbs. @ 2/1 lb. Sine croco, 6 lbs. @ 1/- lb.

*Dec. Ohoonæ (Rubræ) Conc. 1-7, 6 lbs. @ 1/8 lb.

*Dec. Senegæ Conc. 6 lbs. @ 2/- lb.

Dionin e,15 grains @ 1/8 : 1 oz. @ 9/-

Ext. Cascaræ Sagradæ, Liq. B.P., 10 lbs. @ 1/1 lb.

Ext. Canab. Ind. Alc., P.B.; 6 lbs. @ 36/- lb.:

1 lb. @ 37/- lb. Ext. Ergot. Liq. P.B., 5 lbs. @ 2/8 lb.; 1 lb. @

Ext. Ergot. Liq. P.B., 5 lbs. @ 2/8 lb.; 1 10. @ 2/10 lb.

*Ext. Nucls Vom. Liq. B.P., 5 lbs. @ 2/6 lb.; 1 lb. @ 2/9 lb; solid 4d. lb. extra.

Ferri Carb., 1 cwt. @ 2/1-cwt.; 28 lbs. @ 3d. lb. Gingerine, Extra, 5 lbs. @ 9/6 lb.; 1 lb. @ 10/- lb. Glycerine, D.D. 1 260, P.B., 1 cwt. @ 73/- cwt.; 56 lbs. @ 74/- cwt.; 12 lbs. @ 92/d. lb.

Hexamethylentetramine, 7 lbs. @ 2/2 lb.; 1 lb. @ 9/24 lb.

Hexamethylentetramine, 7 lbs. @ 2/2 lb.; 1 lb. @ 2/4 lb.

Hydrargyrum P.B., 75 lb. bottle @ 167/-; 10 lbs.@
2/5 lb.; 1 lb. @ 2/9 lb; Amon., 7 lbs. @ 3/- lb.;
c, Oreta, 7 lbs. @ 1/5 lb.; lodid, Rub., 7 lbs.
@ 8/8 lb.; 0xid. Rub., 7 lbs.@ 2/11 lb.; Perchlor. 7 lbs. @ 2/4½ lb.; Subchlor., 7 lbs. @ 2/8} lb.; Sulph. c. Sulph., 7 lbs. @ 2/6 lb.
3-lb. quantities ld. lb. extra, 1 lb. quantities

3-lb. quantities ld. lb. extra, 1 lb. quantities 2d. lb. extra.

Hydrokinone, 7 lbs. @ 3/9 lb.; 1 lb. @ 4/- lb. Ichtbyol Ammon., 3 lbs. @ 10/9 lb.; 1 lb. @ 11/- lb. *Inf. Aurant. Conc., 1 to 7, 6 lbs. @ 1/- lb. *Inf. Aurant. Comp. Conc., 1 to 7, 6 lbs. @ 1/2 lb. Licorice Juice, 4 and 2 oz. Sticks, 5 cwt. @ 57/- cwt.; 1 cwt. @ 58/- owt.; 28 lbs. @ 7d. lb.; 7 lbs. @ 7½d. lb.

Ol. Morrhuæ Nov. 1908, finest non-freezing Norwegian 25 gall. tin lined barrels; 1 barrel @ 64; barrel; 2 gal. tins @ 36 per gal.
Ol. Olivæ, P.B., good yellow, 46 galls.@ 4/10½ gall. 2 galls. @ 5/6 gall.
Ol. Orange Sweet, not guaranteed absolutely pure; 1 lb. @ 10/6 lb.
Ol. Peach Kernel (so-called) 1 owt. @ 10d. lb.; 56 lbs. @ 10½d. lb.; 9 lb. @ 1/- lb.
Ol. Ricini Alb. Opt. Medicinal, 176 lb. @ 33/6 owt.; 88 lb. @ 36/6 cwt.; 44 lb. @ 38/- owt; 9 lbs. @ 5½d. lb.
Ol. Rosmarini Ooml., 28 lbs. @ 1/6 lb.; 9 lbs. @ 1/7 lb.; B.P., 3 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb.
Santali Flav. Ang. B.P., 5 lbs. @ 10/9 lb.; 1 lb. @ 11/3 lb.
Sinapis Express., 1 gall. tins @ 4/6 esoh. Ol. Morrhuæ Nov. 1908, finest non-freezing

1 lb. @ 11/3 lb.

Sinapis Express., 1 gall. tins @ 4/6 each.

Opium Turc. B.P., 3 lbs. @ 14/6 lb.; 1 lb. @ 15/
lb.; powder, 6d. lb. extra.

Oxymel Scillas, B.P.S cwt. @ 27/- cwt.; 1 cwt. @

30/- owt.; * 7 lbs. @ 6d. lb.

Phenacetin, P.B., pulv. 1 cwt. @ 4/8 lb.; 7 lbs. @

3/10 lb.; 1 lb. at 3/- lb.

Phenazone, P.B., 7 lbs. @ 7/-lb.; 1 lb. @ 7/6 lb.

Phenazone, P.B., 7 lbs. @ 3/3; 1 lb. @ 10/- lb.

Potas Acetas, Gran. P.B., 28 lb. @ 1/- lb.; 7 lbs.

@ 1/1 lb. @ 1/1 lb.

Potas. Brom., P.B., 1 owt. @ 11d. lb.; 28 lbs. @ 11d. lb.; 7 lbs. @ 1/- lb.

Potass. Iod. P.B., 1 owt. @ 7/9 lb.; 14 lbs. @ 7/10 lb.; 3 lbs. @ 7/11 lb.

Pulv.Glycyrrb. Co. B.P. (Green), English Ground,

56 lbs. @ 31/- cwt. Quininæ Hydrobromas or Hydrochlor. B.P., 100

oz. @ 11½d. oz.; 25 oz. @ 1/0½ oz.; 10 oz. @ 1/2 oz.

NEW DETAILED PRICE LIST NOW READY FOR ISSUE

to Customers and New Applicants on Request.

N.B.—Parties having in the past had Lists and never ordering are asked— NOT—to apply.

Aqua Rosae Conc, 1-40, 1 lb. @ 5/6 lb.

" Samb. Trip., 53 lbs. @ 23/6; 6 lbs. @ 8d. lb.
" Laurocerasi, 53 lbs. @ 17/6; 6 lbs. @ 7d. lb.
" Menth. Pip. Conc, 1-40, 1 lb. @ 2/6 lb.
Argent, Nit., Cryst., 25 oz.@ 1/6 oz.; 8 oz. @ 1/7 oz.
Argent, Nit., 6's to oz., 25 oz. @ 1/8½ oz.; 1 oz. @

Argent. Nit., 6's to oz., 25 oz. @ 1/8½ oz.; 1 oz. @ 1/10 oz.

Bacc. Juniper, 1 cwt. @ 18/6 cwt.; 28 lbs. @ 22/cwt.; 7 lbs. @ 3d. lb.

Bals. Copaibæ pure, 44 lbs. @ 2/3 lb.; 9 lbs. @ 2/5 lb.; 1 lb. @ 2/9 lb.

Blsmuth. P.B. Carb., 28 lbs. @ 7/7 lb.; 7 lbs. @ 7/10 lb.; 3 lbs. @ 8/1 lb.; subnit., 1/- lb. less.

Benzo-naphtbol, 7 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb. Caffeine, P.B., 1 lb. @ 14/- lb. Caffeinæ Oit. B.P., 1 lb. @ 10/- lb. Camphor, Cund, 140 lbs. @ 1/4² lb.; 28 lbs. @ 1/6 lb.

| 16 lb. | Camphor. English Flowers, "not artificial," | 5 lbs. @ 2/-½ lb.; ½ oz. 7 lbs. @ 2/3½ lb.; ½ oz. 7 lbs. @ 2/3½ lb.; å oz. 7 lbs. @ 2/10 lb.; b.; å oz. 0antharides, Russian, 7 lbs. @ 2/10 lb.; powder, 5 d. lb. extra.

5d. lb. extra.

Capsicine, Soluble, 1 lb. @ 6/6 lb.

Carbo Animalis or Ligni, 1 cwt. @ 14/- cwt;

28 lbs. @ 2d. lb. [13/- lb.; No. 2, 1 lb. @

Chloral Hydras Oryst. B.P., 7 lbs. @ 4/- lb.;

1 lb. @ 4/4 lb.

*Chloroform, pure B.P., 12 8-lbs. @ 1/12 lb.:

8 lbs. @ 1/8 lb.; 6 1-lb. botts. @ 1/10 lb.

8 lbs. @ 1/8 lb.; 6 1-lb. botts. @ 1/10 lb.;

20 caine Hydrochlor, P.B., 1 oz. @ 8/3 oz.

Colooynth. Apple, Englisb ground, 1 cwt. @

10d. lb.; 28 lbs. @ 11d. lb.; 7 lbs. @ 1/02d.lb.

*Minimum quantity at these prices. F

*Lin. Aconiti Metb., 5 lbs. @ 1/3 lb.; 1 lb. @ 1/6

*Lin. Bellad. Meth., 5 lbs. @ 1/5 lb.; 1 lb. @ 1/8 lb.

Lin. Camph. P.B., 40 lbs. @ 11d. lb.; 9 lbs. @ 1/½d. lb.
Lin. Sapo Meth., 9 lbs. @ 7d. lb.
Lin. Tereb. Acet., B.P., 9 lbs. @ 1/- lb.
Linseed c. Oil, Orushed, 3 cwt. @ 16/- cwt.:
1 cwt. @ 16/5 cwt.

1 cwt. @ 16/6 cwt.

*Liq. Ammonii Acetatis Conc. 1-7, 6 lbs. @ 10½d.
lb.; 1 lb. @ 1/0½ lb.

*, Ammon. Aromat., 6 lbs. @ 8d. lb.

*, Bismuth. P.B., 6 lbs. @ 10½d. lb.

*Liq. Opii Sed., 5 lbs. @ 3/- lb.

Manna, fine fiake, 14 lbs. @ 3/3 lb.

Methyl Salicyl, 56 lbs. @ 1/4 lb.; 5 lbs. @ 1/8 lb.;

1 lb. @ 1/10 lb.

1 lb. (## 1/10 lb. | 1/1 lb. | 3 lbs. (## 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/10 lb. | 1/

9/3 lb.

Quininæ Sulph., P.B., 1,200 oz. @ 6\(\gamma\)d. oz.; 100 oz. @ 7\(\dagma\)d. oz.; 25 oz. @ 7\(\frac{1}{4}\)d. oz.; 10 oz. (2) 8d, 0z.
Rad, Rhei, E. I., English ground, 1 owt. @ 1/2½
1b.; 28 lbs. @ 1/3½ lb.; 7 lbs. @ 1/5 lb.

au; zo ios. @ 1/3 io.; 7 ios. @ 1/5 io.

Sang. Draconis pulv., English Ground, 1 cwt. @ 1/10 ib.; 7 los. @ 2/- id. 1b.

Senna Leaves, Tinne., 1 cwt. @ 3 id. lo.; 7 los. @ 3 id. lo.; English Ground, 1 cwt. @ 5 id. lo.; 6 los. @ 6d. lo.; 7 los. @ 7d. lo.; Alex. parv.. 1 cwt. @ 4d. lo.; 28 los. @ 4d. lo.;

Ung. Acid. Boric. P.B., 28 lbs. @ 61d. lb.; Flav. 28 lbs. @ 4½d. lb. Acid Carbol. B.P., 28 lbs. @ 8d. lb.; 7 lbs.

(a) 9d. bb.; 1 lb. (a) 11d. lb. (b) 4lb.; 1 lb. (a) 11d. lb. (c) 4lb.; 1 lb. (a) 10d. lb.; 1 lb. (a) 11d. lb. (c) 4pic, 7 lbs. (a) 22 lb. (b) 4lb.; 7 lbs. (c) 4lb.; 7 lbs.

7 lb3 lb. B.P., 28 lbs. @ 11d. lb.; 7 lbs. @ 1/2 lb., Hydrarg. Ammon. B.P., 28 lbs. @ 11d. lb.; 7 lbs. @ 1/2 lb. Hyd. Nit. Dil., 7 lbs. @ 10d. lb.

7 Paraff. Alb., P.B., 28 lbs. @ 7d. lb.; 7 lbs. @ 8d. lb.; 1 lb. @ 10d. lb.; Flav. 28 lbs. @ 5d. lb.; 7 lbs. @ 6jd. lb. Resinæ, P.B., 28 lbs. @ 9d. lb.; 7 lbs. @ Flav. 28 lbs. @ 8d. lb.; 7 lbs. @ 8d. lb.; 7 lbs. @ 8d. lb.; 7 lbs. @ 9d. lbs.; 7 lbs.

Sulphuris B.P., 28 lbs. @ 8d. lb.; 7 lbs. @

Zinci Oxid. Benz. B.P., 28 lbs. @ 71d. lb. Zinci Oxid., Whitest and Lightest B.P., 1 cwt. @ 34/-cwt.; 14 lbs. @ 54. lb. Sulphocarbolas B.P., 7 lbs. @ 10½d. lb.; 1 lb. @ 1/1 lb.

*Minimum quantity at these prices, Home Trade, 3 Winchester Quarts assorted. Export, 12 Winchester Quarts assorted. NOTE.—Only Terms Net Cash with order without discount, or orders accepted through London Merchants or Bankers. Goods carriage forward; all packages free; Export cases extra.

ALLIANCE DRUG & CHEMICAL

STREET.

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SALI!

Prepared only by J. C. ENO, Ltd., 'FRUIT SALT' WORKS, LONDON, S.E.

TO THE RETAIL TRADE.

25% Ombridges Lung Tonic

An assured PROFIT of 25 Per Cent. if bought direct in GROSS LOTS. If in smaller quantities through the Wholesale Houses A PROFIT OF 20 Per Cent., which makes OWBRIDGE'S LUNG TONIC ONE OF THE MOST

SATISFACTORY ARTICLES

YOU CAN HANDLE

Our large advertising sends customers into your shop, and gives you an opportunity for doing more trade. We send you the people, and, as the Americans say, "It is up to you" to make them into regular customers.

W. T. OWBRIDGE, Ltd., The Laboratory, HULL

. THE .

Chemist's Co-operative Wholesale.

Chemists innumerable have written

approving the co-operative ideal. Some stop at that. The effort exhausts their enthusiasm. Other chemists plank down their cheques with a confidence that excites our admiration. And some stop at that. The disposition of profits does not concern them. They appear to be satisfied to receive sterling value for their money. Now listen; we are prepared to improve on this.

The Advantages of Co-operation

have been referred to by us on several occasions in our advertisements, and many times in our correspondence. We have NOT stopped there. We have built a cooperative business. Not only have we laid the foundation, but we have also erected the superstructure. And without calling upon you for a single penny towards the necessary capital. This is evidence of our faith.

You may come in and share

our profits free of cost to-day. To-morrow you may not be able to come in, except on terms. Don't write for particulars. There aren't any (at present). Just send your orders. The only entrance fee to those who speak quickly is a promise of a reasonable amount of business during the year. If YOU fulfil your promise, so will we.

Not unto everyone, however,

will it be given to share our profits. Those friends who send only business of the "separated milk" variety are advised not to indulge vain hopes. We should get this business anyway, and there will be no allotment of profits there. The friends who submit our prices to our competitors, and send us the lines they have refused, will know what we mean.

Generous Treatment deserves

generous support, and generous support will be rewarded by a generous cheque at the end of the year. It costs you nothing. You incur no risk. You save money from the commencement. Can you afford to remain outside?

We are moving onward.

You must come with us. We want you to look upon this business as your own, and to remember, when sending orders, that not only are you effecting an immediate saving, but you are ensuring a cash bonus out of profits.

WE SELL FOR CASH and WE BUY FOR CASH.

36 CAMOMILE STREET, LONDON, E.C.

TERMS: Cash with order.

Packages free.

Export Cases extra.

. THE

Chemist's Co-operative Wholesale.

Acetanilide, B.P. 1 cwt. @ 1/0; lb.; 7 lbs. @ 1 2 lb.; 1 lb. @ 1/3 lb. Acetum Ipecac, B.P. 6 lbs. @ 1/- lb. Scillæ B.P. 7 lbs. @ 3d. lb. Acetic. Glacial. B.P. 12 6-lb. bots. @ 6:d. lb.; 6 lbs. @ Acid. Acetic. Glacial. B.P. 12 6-lb. bots. @ 6\frac{1}{2}d. lb.; 6 lbs. @ 7\frac{1}{2}d. lb.

Tad. lb.

Acetyl-salicylic. 7 lbs. @ 2 2 lb.; 1 lb. @ 2 4 lb. [1/10 lb. @ Benzoic. B.P. 28 lbs. @ 16 lb.; 1 lbs. @ 1 8 lb.; 1 lb. @ 7d.; 112 1-lb. bots. @ 16 lb.; 1 lbs. @ 5\frac{1}{2}d. lb.; 10 lbs. @ 7d.; 112 1-lb. bots. @ 8\frac{1}{2}d. c. fc.; 10 lbs. @ 7d.; 112 1-lb. bots. @ 8\frac{1}{2}d. c. fc.; 10 lbs. @ 7d. lb.

Hydroprom. Dil. B.P. 6 lbs. @ 7d. lb.

Hydroyan. Dil., B.P. 12 l-oz. bots. @ 3\frac{1}{2}d. lb.; 1 dbs. @ 4\frac{1}{2}d. lb.; 1 cwt. @ 3\frac{1}{2}d. lb.; 1 lbs. @ 4\frac{1}{2}d. lb.; 1 cwt. @ 3\frac{1}{2}d. lb.; 1 lbs. @ 4\frac{1}{2}d. lb.; 1 lbs. @ 4\frac{1}{2}d. lb.

Adeps Benz. B.P. 28 lbs. @ 7d. lb.

Alois Barb. Pulv. 1 cwt. @ 60-cwt.; 7 lbs. @ 9d. lb.

Aloin B.P. 1 lb. @ 3\frac{1}{2}lbs. @ 11 lb.

Ammon. Bromid. B.P. 7 lbs. @ 11 lb.

Ammon. Bromid. B.P. 7 lbs. @ 11 lb.

Aniseed, English Ground. 1 cwt. @ 33-cwt.; 28 lbs. @ 35-cwt.

Aqua Anethi Conc., 1 to 40. 5 lbs. @ 110 lb.; 1 lb. @ 2 2 lb.

Aurant. Flor. Trip. 53 lbs. @ 110 lb.; 1 lb. @ 2 2 lb.

Laurocerasi, B.P. 53 lbs. @ 16 lbs. @ 10 lb.; 1 lb. @ 2 2 lb.

Menthæ Pip. Conc., 1 to 40. 5 lbs. @ 6 5 lbs. @ 7d. lb.

Menthæ Pip. Conc., 1 to 40. 5 lbs. @ 5 lbs. @ 10 lb.; 1 lb. @ 2 2 lb.

Rose Conc., 1 to 40. 5 lbs. @ 5 2 lb.; 1 lb. @ 5/6 lb. ", Laurocerasi, B.P. 53 lbs. @ 16.6; 5 lbs. @ 7d. lb. @ 1/10 lb.; 1 lb. @ 2/2 lb.
", Menthæ Pip. Conc., 1 to 40. 5 lbs. @ 1/10 lb.; 1 lb. @ 2/2 lb.
", Rosæ Conc., 1 to 40. 5 lbs. @ 5/2 lb.; 1 lb. @ 5/6 lb.
", Trip. 53 lbs. @ 17/6; 5 lbs. @ 7d. lb.
", Sambuci Trip. 53 lbs. @ 21/-; 5 lbs. @ 8d. lb.
Balsam Copaiber Pure, B.P. 44 lbs. @ 2.2 lb.; 9 lbs. @ 2/4 lb; 1 lb. @ 2/7 lb.
", Tolu, B.r. 40 lbs. @ 1/- lb.; 1 lb. @ 1/4 lb.
Bandages, W.O.W. 1 in. 6s. od.; 1½ in. 8s. 3d.; 2 in. 10/6; 2½ in. 13-; 3 in. 16/- per gross.
Bismuth Carb. B.P. 3 lbs. @ 7/6 lb.; 1 lb. @ 7/8 lb.
", Subnit. B.P. 3 lbs. @ 66 lb.; 1 lb. @ 68.
Calcii Carb. Præcip. No. 1. Lightest, 5 cwt. @ 13-cwt.; 56 lbs. @ 16/Camphor, English Flowers, genuine, 5 lbs. @ 2/4 lb.
", Japanese. 1 oz., 7 lbs. @ 2/4 lb.
", Japanese. 1 oz., 7 lbs. @ 18 lb.
(Cera Alb. B.P., 1 cwt. @ 1/4 lb.; 28 lbs. @ 1/6 lb.; 16 lb.; Flav. B.P., 1 cwt. @ 1/4 lb.; 28 lbs. @ 1/6 lb.; Chloroform, B.P. 8 lbs. @ 1/8½; 3×1 lb. Bots. @ 1/10½ lb.; Cocain. Hydrochlor, B.P. 25 ozs. @ 7/6 oz.; 4 ozs. @ 7/10; 10.. @ 83.
Conf. Sennæ B.P., 14 lbs. @ 7d. lb.; 7 lbs. @ 7½d.
Cotton Wool. White Absorbent. Interleaved. 1 lb. rolls. # lbs. @ 1/4 lb.

lbs. @ 1/4 lb.

lbs. @ 3/4 lb.

lbs. @ 3/6 gall.

lbs. @ 3/6 ga Quinin. Sulph. B.P. 100 ors. @ 7d. cz.; 20 ozs. @ 120.

Rad. Gention., English Ground. 1 cwt. @ 31/6 cwt.; 28 lbs. @ 33 6 cwt.

Rad. Rhei, E.I., Pulv., Elect. 4 lbs. @ 2 3 lb.

Sapo Castil. Alb. Pulv. 1 cwt. @ 56/- cwt.; 7 lbs. @ 7d. lb.

Sodii Bromid. B.P. 7 lbs. @ 1/4 lb.; 7 lbs. @ 1/5 lb.; 1 lb. @ 1/7 lb. Cryst. B.P. £d. extra.

Spts. Æther. Nit. B.P. 5 lbs. @ 28 lb.

" Ammon. Aromat. B.P. 5 lbs. @ 2/1 lb.

Syr. Easton B.P. 7 lbs. @ 9d. lb.

Syr. Ferri lodid. B.P. 7 lbs. @ 11d. lb.

" Ferri Phosph. Co. 28 lbs. @ 3 dd. lb.; 7 lbs. @ 4d.

" Hypophosph. Co. B.P.C. 7 lbs. @ 7 dd. lb.

" Scillae. B.P. 28 lbs. @ 3 dd. lb.; 7 lbs. @ 4d. lb.

" Scillae. B.P. 7 lbs. @ 6 dd. lb.

" Tolut. B.P. 7 lbs. @ 5d. lb.

Tolut. B.P. 7 lbs. @ 17 lb.

" Arnicæ, B.P. 5 lbs. @ 2/4 lb.

" Arnicæ, B.P. 5 lbs. @ 1/1 lb.

" Belladon. B.P. 5 lbs. @ 2/1 lb.

" Belladon. B.P. 5 lbs. @ 2/1 lb.

" Benzoin. Co. B.P. 5 lbs. @ 2/6 lb.

" Benzoin. Co. B.P. 5 lbs. @ 1/10 lb.

" Camph. Co. B.P. 5 lbs. @ 1/10 lb.

" Camph. Co. B.P. 5 lbs. @ 1/10 lb.

" Cardam. Co. B.P. 5 lbs. @ 1/10 lb.

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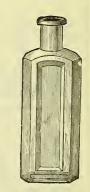


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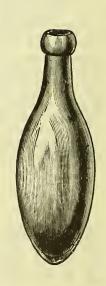




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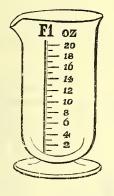
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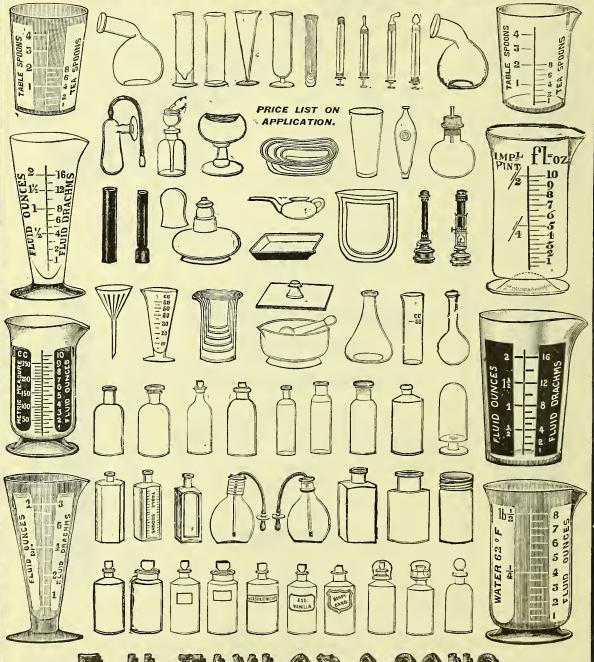






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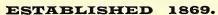




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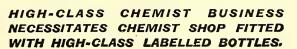
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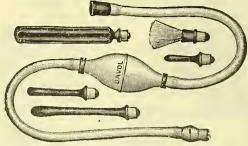




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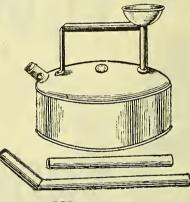
 $\frac{2\frac{1}{2}}{10/6}$ $\frac{3\frac{1}{2}}{13/-}$ $\frac{5}{16/-}$ $\frac{7}{20/-}$ pint $\frac{21}{10/6}$ $\frac{31}{10/-}$ $\frac{5}{10/-}$ $\frac{7}{10/-}$ pint $\frac{31}{10/-}$ $\frac{5}{10/-}$ $\frac{7}{10/-}$ $\frac{1}{10/-}$ $\frac{10/-}$ $\frac{1}{10/-}$ $\frac{1}{10/-}$ $\frac{1}{10/-}$ $\frac{1}{10/-}$ $\frac{1}{$



Oval 3 pint 2/6 each ,, 4 ,, 3/- ,,

Fig. 247

Patent 3/3 each





With Stand and Spirit Lamp, 5 pint, 5/3 each.

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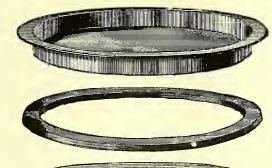
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All Patent Knife Cleaning Machines, and Rubber and Buff Leather Knife Boards.

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Advertisers are desired to take note that the advertisements of Businesses for Disposal and Wanted, Situations Open and Required, Exchange Column, &c., belong to the PREPAID CLASS, and to ensure the due insertion of the announcements the remittances must accompany the instructions. A great amount of unnecessary correspondence is occasioned by the non-observance of this regulation, and the Publisher hopes that the advertisers will assist in the quick preparation and despatch of the Supplement by strictly observing this rule. Advertisements for the current issue cannot be received after 4 p.m. on Thursday in each week.

A Copy of this Supplement is inserted in every Number issued of "The Chemist and Druggist."



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offer.
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We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require partners, agents, or assistants, or wish to sell their businesses, an advertisement in this Supplement, placed in every copy of "The Chemist and Druggist," should be the readiest means of helping them to attain their object. The tariff for such announcements is given under the appropriate headings in the Supplement. Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

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(continued.)

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OUTH-WEST OF ENGLAND (in a much sought-after locality).—
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DISPENSING, Light Retail, and Homeopathy, in fine position of fashionable Midland watering-place; the returns are from £500 to £600, and capable of much increase; vendor, through serious illness, is unable to give any personal attention, and for quick sale will accept £350 (much less than value of stock and fixtures); the shop is spacious and well fitted; house good. "Midland" (192/28), Office of this Paper.

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TIRST Advertisement.—Will be advertised until Sold; no reasonable offer refused; London; up-to-date; returns nearly £900, could do double; must sell; only wants seeing. Full particulars for memo or eard (no agents), "Hypo." (154/12), Office of this Paper.

LIGHT Retail, Dispensing, Prescribing, Photographic; forty minutes from Waterloo; good position; returns nearly £700; long leaso at low rent. "Clark" (153/21), Office of this Paper.

SOUTHALL, BROS., & BARCLAY, LTD., have unusually well-recommended Businesses, Birmingham district, for Disposal. Full particulars to bona fide applicants.

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MANCHESTER DISTRICT.—Wanted, a small Drug-store, with house attached; returns from £8 to £10; busy thoroughfare preferred. 149/34, Office of this Paper.

WANTED to purchase a Business; Northern Counties preferred; price £300 to £500; cash down and quick settlement if suited. Full particulars (which will be treated with strict confidence) to "Pharmacist" (149/39), Office of this Paper.

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WANTED, small Cash Retail Drug Business; unopposed preferred, and West of England if possible; village or small town not objected to. Particulars, in confidence, "Statim," c/o Beresford Villa, Ashcombe Gardens, Weston-super-Marc.

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A TTRACTIVE Shops to be Let near Bushey Station, Herts; lock-up or with residence; a splendid opening for a good-class Chemist. Apply, Stimpson & Lock, Watford.

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PLATE-GLASS shelves for window, second-hand, one set of three plate-glass shelves, 3 ft. by 12, 9, and 6 in. wide respectively, with standard bars and brackets, 50s.; one set of ditto, 4 ft. long by 15 in., 12 in. and 9 in. wide, with standard bars and brackets, 42s.; one set of ditto, 5 ft.-long by 15 in., 12 in., and 9 in. wide, with standard bars and brackets, 55s.; one set of ditto, 6 ft. long by 15 in., 12 in., and 9 in. with standard bars and brackets, 55s. R. Tomlinson & Sons, Bond Street, Constitution Hill, Birmingham.

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SITUATIONS OPEN.

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RETAIL.

BATH.—Davies & John, Chemists, require the immediate services of a competent Assistant (not under 25), accustomed to a first-class Dispensing business, and seeking a permanency; full particulars to be given in first letter. Applicants will please not enclose photo or copies testimonials. Address, "Assistant," as above.

BIRMINGHAM.—Junior; unqualified; about 22; one acoustomed to good-class Dispensing and Photographic business; good experience essential; outdoors; weekly half-holiday; no Sunday duty. State age, height, reference, and salary required, to 154/8, Office of this Paper.

BIRMINGHAM.—Qualified Assistant, Counterman, and Dispenser, with view to Management of a branch; must be energetio, gentlemanly, trustworthy, and thoroughly capable. Full particulars as to age, height, experience, and salary required (outdoors), also photo if convenient, to Hedges & Son, Pharmacists, Birmingham.

CHELTENHAM.—R. Jeffrey & Son have a vacancy for a good all-round Assistant, accustomed to high-class Dispensing one only kept; comfortable home for a quiet man. Please state usual particulars and salary expected.

CHESTER.—Improver wanted (sge 19 to 21, indoors) for Light Retail and Dispensing; must be abstainer and have good reference. Apply, giving full particulars and enclose photo, to Randall Roberts, Foregate Pharmacy.

CHINA.—Junior qualified Assistant, about 24; three years' agree ment; short hours; liberal terms; passage paid out and home Apply, Dakin Brothers, 82 Middlesex Street.

CHINA.—A qualified Assistant for high-class Chemist's and Drnggist's business; aged 22 to 28; must have had good experience in first-class house; liberal salary offered, and passage paid out and home. Address, "China" (154/2), Office of this Paper.

COLOMBO.—Junior qualified Assistant; about 23; with Optical knowledge preferred; liberal terms; short hours; passage paid out and home; 4 years' agreement. Apply, by letter only, giving full details of experience, to Dakin Brothers, Ltd., 82 Middlesex Street, Bishopsgate Street, E.C.

DOVERCOURT.—Junior Assistant required; outdoors; reliable and energetic. Eastern Drug Co., Dovercourt.

RALMOUTH.—Wanted, qualified Assistant; smart at Counter and Dispensing, with knowledge of Photography; outdoors; married preferred, but not essential; half-holiday weekly. Apply, stating age, height, salary required, etc., to Wilmer & Hocking, Chemists, Falmouth.

HONITON.—Qualified Manager for good Dispensing business in market town; easy hours; no Sunday duty, half-day Thursday; a knowledge of Agriculture and Photography, and abstainer preferred. Kindly give full particulars, salary (indoors, every comfort given), when disengaged, reference, and photo (which will be returned), Barker, c/o Dyer, Pharmaeist, Honiton.

INDIA, N.W.—Assistant, qualified, with good Wholesale experience, to sail February 12; salary first year £160, second £180, third £200; 3 years' agreement; passage paid out and home; Seotehman preferred. Apply, with copies of testimonials and photo, to "R. L.," o/o S. Maw, Son & Sons, 7 to 12 Aldersgate Street, London.

TALY.—Wanted, immediately, smart Junior, qualified, of good appearance and address; previous Continental experience preferred, but not essential. Send full particulars in first letter, and enclose photo (which will be returned), H. Roberts & Co., English and American Chemists, Florence, Italy.

KARACHI, INDIA.—An unqualified Assistant wanted with Wholesale knowledge; age about 24; not afraid of work; salary £140, £160, £180, and £200; outdoors; single; 4 years' agreement; passage, second class, paid out and home. Apply, with photo and testimonials, to "R. L.," e/o S. Maw, Son & Sons, 7 to 12 Aldersgato Street, E.C.

KIDDERMINSTER.—Qualified Assistant, experienced, wanted, at once; references must bear strictest investigation. Stato fullest particulars, Maurice Smith, Ph.C., F.S.M.C., Kidderminster.

L ONDON, S.W.—Required, Dispenser with Minor qualifications; age about 25; salary to commence 45s. per week (outdoors); hours of work approximately 8.45 to 6 r.m., Saturdays till 2 r.m.; no Sunday duty; 14 days' usual vacation. Apply, by letter, stating full particulars of experience, to 709, Sell's Advertising Offices, Fleet Street, E.C.

ONDON, N.W.—T. H. Bateman & Co., 223 Finehley Road, N.W., have a vacancy for a reliable Assistant; the best experience in high-class Pharmacy essential; aged about 25 to 30; indoors. Reply, by letter in first instance, giving fullest particulars, and enclose photograph.

London, N.W.-Experienced Assistant (about 25) for a goodclass Retail and Dispensing; indoors; middle February. Lapthorn, 79 Abbey Road, N.W.

LONDON, S.W.—Wanted, a Junior (about 25) accustomed to goodelass trade; good Window-dresser; outdoors; personal application preferred. Lloyd, 125 St. John's Hill, Clapham Junetion, S.W.

I ONDON, N.W.—A competent Assistant required for a good-class Dispensing and Retail business; qualification not essential. Apply, with full particulars as to age, height, experience, etc., to 151/21, Office of this Paper.

L ONDON, W.C.—Immediately, unqualified, in high-class Retail and Dispensing business, and large American connection; personal application required. Turner, 20 Bury Street, London, W.C.

LONDON, W.—Qualified Assistant required. Written application only in first instance to Wallas & Co., 36 New Cavendish Street, W.

L ONDON.—Manager wanted; qualified; busy market thoroughfare; working class business; must be good Prescriber, sober, and industrious; half-day holiday weekly; no Sunday duty. If writing, please send photo, or call, William Fox & Sons, Chemists, 109 and 111 Bethnal Green Road, London, N.E.

L ONDON, S.W.—Wanted, thoroughly experienced, reliable, qualified man with good Store experience to Manage branch department; personal application preferred. Drug Department, Francis & Son, Ltd., 450 Brixton Road, S.W.

MALVERN.—Qualified Assistant; accustomed to best-class Retail and Dispensing. Please state usual particulars, with previous experience and salary required (indoors), to A. Mander, Pharmaceutical Chemist, Malvern.

ORANGE RIVER COLONY.—Manager, with British qualification, to take entire charge of business; can sign agreement, three years; passage paid; £15, £16, £17 yearly in succession; married or single man; healthy climate. Apply, with full particulars, to "Africa" (148/6), Office of this Paper.

Oxford.—Wanted, Assistant; qualified; single; indoors. State age, salary, and full particulars to John A. R. Burbank, 116 Walton Street, Oxford.

SITUATIONS OPEN—cont.

ST. LEONARDS.—Junior (outdoors) in Light Retail and Dispensing business. State age, height, salary required, full particulars, and enclose photo, "R.," 261 London Road, St. Leonards.

SHEFFIELD.—Wanted, about February 15, a qualified Assistant for the Mixed Retail trade in a working-class district; one having had some experience in this class of trade preferred; permanency; Thursday half-holiday; no Sunday duty; outdoors; aged between 23 and 40; references to be sent for strict investigation. Exor. J. Watts, 595 Attercliffe Road, Sheffield.

OUTH COAST.—Qualified Managing Assistant for a high-class Pharmacy, to live over premises. Applications, from married men only, stating full particulars of experience, age, and salary required, to Mr. A. F. Porter, c/o Messrs. S. Maw, Son & Sons, 7-12 Aldersgate Street, E.C.

WAKEFIELD.—Junior Assistant (about 20) required at once for an old-established Family business; half-day weekly from 2 P.M.; moderate extra duties; indoors. Apply, with usual particulars and photo, to J. L. Chaplin & Son, Pharmaceutical Chemists, Wakefield.

WELLINGTON.—Qualified Assistant wanted for Drug Counter, abstainer, in large Mixed business; one used to a country business preferred; indoors or out. Ison & Sons, Ltd., Wellington, Shropshire.

WOLVERHAMPTON.—Wauted, Assistant; outdoors. Apply, giving full particulars of age, height, previous engagements, salary required, and references, to F. A. Willeock, 71 Victoria Street, Wolverhampton.

CENTLEMANLY, conscientious Junior of good address for goodclass Dispensing and Light Retail, as soon as possible; comfortable home; easy hours; time for study; highest references essential; state full particulars as to experience, age, height. State salary required and give names of references, enclosing photo, "Seaside" (151/1), Office of this Paper.

JUNIOR or Improver; outdoors; hours 8.30 to 8.30, Thursdays 1 r.m., Saturdays 11 r.m.; time for study. State salary required and when at liberty, Lee, Chemist, Doneaster Road, Mexboro.

LEWIS & BURROWS have a vacancy for a first-class qualified Dispenser for the West-end. If application is made by letter, please enclose photograph and full particulars to 22 Great Portland Street, W.

 $\mathbf{Q}^{\mathrm{UALIFIED}}$ Assistant required. Granville Wood & Co., Chemists, 30 High Street, Oldham.

QUALIFIED Assistant; aged from 25 to 35; about first week in March; indoors. Full particulars as to age, height, references, experience, photo, etc., to "Aspirin," c/o Davy Hill & Co., 64 Park Street, London, S.E.

QUALIFIED Manager, with experience in Sight-testing, for a cash business in large Lancashire town where the hours are easy; if prepared with eash, will grant early succession on very reasonable terms. State references and if succession desired, and when at liberty, to 151/5, Office of this Paper.

QUALIFIED Branch Manager for Colliery district; Welsh speaking; abstainer; one seeking permanency; must be thoroughly reliable. Photo and particulars to D. George, Pentre, Glam.

REQUIRED, middle of February, active, competent Junior; outdoors; hours short; time given for study; no Sunday duty; Welsh desirable. Apply, with full particulars, Rhys D. Morgan, Maesteg, Glam.

SMART Assistant (about 20) wanted for middle-class Retail; one with knowledge of modern business methods and ability to take charge of branch occasionally preferred. State height, salary required (both indoors and outside), and all usual particulars in first letter, 151/29, Office of this Paper.

WANTED, before 1st April, to meet requirements of new Pharmacy Act, qualified Chemist with experience in Dispensing, Drysaltery, Seed, and Mixed business for small limited company in Midland town; capital preferred to qualify as Director; applicant should be married man to live on premises. Apply, 147/29, Office of this Paper.

WANTED, qualified man to Manage; must have had good experience; first-class references. Apply, 193/7, Office of this Paper.

WANTED, elderly qualified man as Assistant in medium-class business; state age, experience, and salary required; comfortable permanency to suitable upplicant. 149/10, Office of this Paper.

WANTED, smart young man (about 21-22) who has had good experience in Horse and Cattle Medicine, etc. State age, when at liberty, and salary required, to 149/01, Office of this Paper.

1910.—Wanted, for a short engagement in the East (1\frac{1}{2}\) to 2 years), a gentleman with Minor or Major qualification in thorough sympathy with Protestant Mission work; would be required to sail next autumn or winter; kindly apply by letter, giving as many particulars as possible in first communication to save time, as the names of suitable applicants have to be sent abroad. Apply, G. Fowler, 27 Clevelaud Street, Shrewsbury.

Dose Tables for Students of Pharmacy.

A TWENTY-FOUR page booklet showing the adult doses in ordinary cases of the principal medicinal agents, with metric equivalents for dispensing and a complete table of atomic weights, comprising the B.P. figures and the International Committee's latest pronouncements (0-16 and H=1). The booklet measures 4 in, by 2½ in., and can be carried in the rest pocket. To be obtained from THE CHEMIST AND DRUGGIST (Book Department), 42 Cannon Street, London, E.C., for THREE PENNY STAMPS PER COPY, POST FREE.

WHOLESALE.

A LEADING London Optical house have a vacancy for a Show-room Salesman; he would eventually be expected to take the post as Traveller either at home or abroad; previous Wholesale experience preferred, but not indispensable; S.M.C. qualification desirable; liberal terms would be made with a gentleman of nn-doubted good character and address; communications will be received in strict confidence, and applicants must state full particulars of their present position, aga, and wages expected. Apply, "Enterprise" (134/59), Office of this Paper.

GENTLEMAN wanted with large connection among, and personally known to, the leading Patent Medicine proprietors and firms. Reply, by letter, with full particulars, "P. P.," Ground Floor, 22 Henrietta Street, Covent Garden.

LADY Clerk, with some knowledge of Pharmacy and German, to assist principal of City Wholesale and Retail business in Book-keeping, Correspondence, and general routine work. Apply, stating age, experience, and salary required, to "H. L.," 177 Stapleton Hall Road, Stroud Green, London, N.

OFFICE, Export Druggists, London.—Managing Clerk with first-class experience of routine of Shipping Invoicing, etc., who has had two or three others under his control; none but those thus qualified entertained; state full particulars and salary expected; good opportunity for competent and energetic man. Apply, with full particulars, to 173/45, Office of this Paper.

REPRESENTATIVE required by a well-known firm; must have a thorough knowledge of Instruments and Rubber Goods; salary and commission paid. State full particulars, age, experience, etc., 146/38, Office of this Paper.

 $\mathbf{R}^{\mathrm{EPRESENTATIVES}}$ wanted to sell Corks, Rubber Goods, etc., as a Side-line; special value; good commission. Write, 697 Sell's Advertising Offices, Fleet Street, E.C.

TYOILET Soap Salesman required at once; preference given to one already having an established trade in Lancashire; none but A1 men need apply. Replies, giving age, full experieuce, salary expected, to 153/17, Office of this Paper.

TOWN Traveller.—Wanted, by an old-established house, a gentleman of experience in the Perfumery and Toilet Soap trade; one accustomed to the Wholesale and large Retail; must have knowledge of the trade. Write, giving full particulars, salary required, etc., in confidence, to "Box 55," e/o Willings, 73 Knightsbridge, S.W.

WANTED, by a very old-established house, a smart Salesman, who is already calling on Chemists, to take up and push as a Side-line the sale of a first-class Household Remedy for all Aches and Pains; extensive advertising scheme to commence immediately to support his efforts; good remuneration to really good man. Apply, enclosing photograph and all necessary information, to "Chemicus" (157/60), Office of this Paper.

WELL-KNOWN London Wholesale Druggist requires the services of a Manager; must be accustomed to control, have a thorough acquaintance with the trade and Chemists' requirements. Address, stating age, experience, and salary required, "W. 511," e/o Deacon's, Leadenhall Street, E.C.

YOUNG man wanted for Wet Counter in Wholesale Chemist's Warchouse. Apply, stating age, etc., to 193/6, Office of this

PARTNERSHIPS.

A N opportunity occurs for young and energetic qualified Chemist to join advertiser as Partner in sound established businesses; no gentleman with less than £500 at command need apply; bank or other snitable reference will be required. 154/11, Office of this Paper.

Paysalters, Manufacturing Chemists, Proprietary Goods, etc.; established 10 years; splendid opportunity for energetic man with £1,000 capital. Apply for full particulars, Gec. A. Marriott, Incorporated Accountant, 9 Albert Square, Manchester.

CLD-ESTABLISHED Export Druggists and Manufacturing Chemists are open to receive proposals from gentleman (about 35) with high qualifications as Chemist and first-class practical experience in the management of such a Laboratory, together with some general knowledge of commercial work, with a view ultimately to the introduction of capital and to his acquiring directorship; applications from principals only, having experience indicated, will be entertained; exceptional opportunity, due to early retirement of one of present Directors. Address, "Principal" (173/405), Office of this Paper.

PARTNER wanted in a well-known and sound Drug business in the North of England; must be a qualified Chemist of some experience, willing to call on Medical men; may take a share, with the option to increase the same gradually by arrangement. Write (in strictest confidence), giving experience, age, and full particulars, and if possible send a photograph, to "X." (192/26), Office of this Paper.

YOUNG gentleman, well educated, who has received an excellent Pharmaceutical training and experience in West-end businesses, seeks a situation (Wholesale or Sundries preferred) where industry, ability, and good character, combined with the introduction of capital, would secure a permanent and progressive position; must be genuine. Replies (in confidence) to 148/40, Office of this Paper.

BOARD AND RESIDENCE.

BOARD and Residence.—Nelson House, 33 Guilford Street, Russell Square, London, W.C.; recommended by students; large dining and drawing rooms; central for all parts; breakfast 8.30, dinner 7 r.M. or by arrangement; terms from 23s. weekly; two in one room, separate bods, from 20s. each.

SITUATIONS WANTED.

1s. for 12 words or less; 6d. for every 10 words beyond, prepaid.

RETAIL.

JUNIOR; good experience and references. E. Novison, 25 Barker Terrace, South Shields.

LOCUM or Part-time; qualified; abstainer; active; disengaged. "Borax," 535 Holloway Road, N.

LOCUM; qualified; excellent references; disengaged. "Caius," 21a Castletown Road, West Kensington.

MANAGER; qualified; elderly; active; best varied experience.

BRANCH Manager; qualified; 25; good Prescriber, Photographic. "Abstainer," 2 Bryn Hyfryd, Aberdare, Wales.

CONDON Chemists.—A good Window-dressing scheme available. For particulars apply, 137/34, Office of this Paper.

A SSISTANT; West-end and Store experience; ontdoors; or Dispenser; town. "H. G.," 6 Willow Avenuc, Barnes, S.W.

MANAGER, Managing Assistant, Locum; good experiences; references. "Qualified," 23 Wood Lane, Shepherd's Bush.

A SSISTANT; disengaged; part-time or permanency; good references; Window-dresser; unqualified. "Extractor," Extractor,"

JUNIOR (21), in good-class business; 3½ years' good experience; disengaged; good references; West of England preferred. Reed, Linhay, Westonzoyland, Bridgwater.

FULLY-QUALIFIED, energetic man desires position as Manager; wide experience; country business preferred; married; excellent testimonials. "C.," 1 Newman Street, London, W.

JUNIOR Assistant; 22; first-class Dispensing and Photographio experience; Birmingham district preferred; outdoors. E. J. Bromage, Viola Cottage, Roden Avenue, Kidderminster.

A SSISTANT; 31; unqualified; married; first-class experience; excellent reference from Chemists and Doctors; 7 and 6 years previous engagements; good Dispenser, Prescriber, etc.; permanency desired. "Energetio" (151/19), Office of this Paper.

MANAGER; Loudon, West-end or City; qualified; gentlemanly appearance; unique experience; first-class record; intimate knowledge modern Store trading; fullest details at interview. "S. B.," c/o R. J. Reuter & Co., 5-7 Denman Street, Piccadilly, W.

MIDDLE-AGED, married man (no family); steady, sober, experienced (ex W. Martindale, senr.); Prescriber, Dispenser, Counterman, professional Photographer, Surgical and Mechanical Dentistry; town or country; disengaged. Powell, New Romney, Kent.

A DVERTISER (aged 37), unqualified, good London, country, and Colonial experience, requires permanent outdoor berth; exceptional references can be given; last engagement over 6 years; would invest small amount in genuine concern if desirable. Apply, "Sac.," 1 Prospect Villas, Taunton, Somersetshire.

EVENING Employment.—Qualified; West-end reference. 31 Albert Road, Ilford.

Condon.—Unqualified; good all-round man. "C. J. L.," 390 Cold-harbour Lane, Brixton.

A SSISTANT; 22; uuqualified; good Dispensing experience. "F.," 168 Clarendon Road, Notting Hill.

QUALIFIED; used to management; country preferred. "W.," 2 Ladbroke Crescent, Notting Hill.

BRANCH Managership: qualified; 36; married. "Chemist," 35 St. John's Park, Holloway, London.

OUTDOORS.—Reliable Assistant; varied experience; disengaged. "Statim," 129 Russell Avenue, Wood Green.

MANAGER; 40; qualified; energetic; Prescriber; tall; good references. Longman, 81 Claude Road, Cardiff.

JUNIOR or Improver in Dispensing Business; Photography; good references. Sarginson, 9 Fern Bank, Lancaster.

SMART, competent, reliable, active, willing Assistant; diseugaged. "Energy," 4 Cuthill Road, Denmark Hill, S.E.

PERMANENCY; qualified; 24: good Dispensing and Counter experience. T. W. Bolton, 52 Rothes Road, Dorking.

PART-TIME; thoroughly experienced; excellent references. Apply, "Student" (153/36), Office of this Paper.

JUNIOR; 21; Dispensing, Photography; reference; abstainer; passed Prelim. Hopkins, Broad Oak, Leighton Buzzard.

DISPENSER to Doctor and Bookkeeper; excellent references; disengaged; London. "S. S.," 175 Kenuington Road, S.E.

L ONDON.—Assistant; 26; first-class experience, West Eud; unqualified; disengaged; good references. 153/4, Office of this

A SSISTANT or branch Manager; qualified; married; well up in Dispensing and Photography. Rees Jones, "St. Elmo," St. John's Road, Abingdon.

CHEMIST'S son (aged 16½ years) desires further experience with Chemist; 2 years' experience in Laboratory. Burton, 18a Culmore Road, Peekham, S.E.

MANAGER; 33; single; qualified; reliable, cuergetic; City, West-end, and suburban Store experience; Art, Photography, and Optics. Apply, 153/28, Office of this Paper.

MANAGING Assistant or otherwise; 37; capable, active, obliging, trustworthy; permanency desirable; salary moderate; references, "G.," c/o Mr. J. R. Bawden, Green Lane, Redruth, Cornwall

FIRST-CLASS Prescriber, Dispenser; 12 years' experience; unqualified; married; 32; speaking German, English; can work up business; salary and commission; manager at present; disengaged February 7. 153/40, Office of this Paper.

SITUATIONS WANTED continued).

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m A}^{
m SSISTANT};$ 10 years last situation; tall; disengaged. Howes, 53 Glisson Road, Cambridge.

QUALIFIED; tall; 25; good-class Retail and Dispensing experience, 148/1, Office of this Paper.

UNQUALIFIED; thoroughly experienced; Counter or Dispensing; disengaged. "Wax," 97 High Street, Dovercourt.

UNQUALIFIED; 27; 13 years' experience; Retail or Wholesale. "Anthoney," c/o Rowe, 104 Brighton Road, Croydon.

QUALIFIED; 26; tall; General Retail experience; London preferred; outdoors. Wilson, 81 High Street, Teddington.

A SSISTANT; 23; tall; good Counter, Retail, and Dispensing experience. A. Robinson, School House, Alfreton, Derbyshire.

UNQUALIFIED; used to quick Cash trade, Photography; permanency. Masou, 39 Belvoir Street, Earlham Road, Norwich.

L ONDON Part-time Assistant; good general experience; 24; tall; satisfactory references; now disengaged. 145/33, Office of this Paper.

IMMEDIATELY; Manager-Senior; 35; qualified; ontdoor; last reference 3½ years. "Photo," 87 Lower Bank Road, Fulwood, Preston.

CERMAN qualified Chemist, well np in Euglish, wants situation, at once. Write to G. Ruben, Fleudsburgerstr. 17, Berlin, N.W. 23.

A SSISTANT requires situation; outdoors; Birmingham district preferred or Midlands. H. Walker, 4 Tower Road, St. Leonards-on-Sea.

QUALIFIED; 22; good references; Dispensing and Counter experience; Lanes or Cheshire. "B. H.," e/o Mrs. Allen. 18 Grafford Road, Salford.

VERY moderate terms; permanency; Manage Mixed branch; married; réliable, energetic; Extractor, Prescriber; unqualified. 145/1, Office of this Paper.

QUALIFIED; 30; tall; married; 15 years' experience; Connter, Dispeusing, Photography; disengaged; London or suburbs. "Don," 74 Replingham Road, Southfields.

MANAGER or Assistant; London and provincial experience; last situation 3½ years; disengaged; single; 32. "Qualified," 148 Kyverdale Road, Stoke Newington, N.

SMART Assistant seeks permanency; excellent Prescriber, Photography, Extractor; town or country; disengaged; aged 46. "Bromo.," 20 Elmdale Road, Chessel Street, Bedminster.

JUNIOR; 20; just finished 4 years' apprenticeship in good Counter, Dispensing, Photographic, Retail business; in or out doors; excellent reference. Harrison, Pharmacy, Woburn Sands.

U NQUALIFIED; 28 years; disengaged March 1; Counterman, Dispenser, Window-dresser; 11 years present position; married; permanency; highest references. "Aspirin," 77 St. George's Road, Hull.

ADY Dispenser and Bookkeeper requires post with Doctor or Institution; 3 years' experience in large institution (7,507 members); excellent testimonials and references. Address, "A. S. M.," Dispensary, Gainsborough.

COUTH COAST or Home Counties; Assist or Manage moderatesize business; nominal salary; view purchase or Partnership; owner wishing relief through age or ill-health. Particulars, "N.," 16 St. George's Street, Chorley, Lanes.

MANAGER or Assistant; qualified; 44; 5 ft. 6 in.; very active; married; experienced high-class Retail, Dispensing; also expert Agricultural and Veterinary Chemist; references; disengaged; permanency preferred; Loeum entertained. "Salen," 22 Smith Street, Warwick.

DISENGAGED shortly up to 4 o'clock daily; Dispensing, Books, Counter, or Stock; City, West-end, or North preferred; extensive experience; Hull qualification; excellent references. "Beta," 55 Lady Margaret Road, Kentish Town.

CHEMIST; qualified; 38; home or abroad. "Orient" (149/2), Office of this Paper.

JUNIOR; 21; Dispensing, Photographic, Counter; good references; disengaged. White, Market Place, Uppingham.

A SSISTANT; experienced; thoroughly competent; excellent references; age 27. L. Mountford, Shavington, Crewe.

ADY; unqualified; Dispensing, Bóokkeeping, Retail; good references. Edwardes, Staplehurst Road, Hither Green.

QUALIFIED; 25; Dispensing, Photography; references; disengaged, Wesley, 9 Victoria Terrace, Newquay, Cornwall.

MANAGER; permanency; town or country; unique experience; active; middle-aged. "M.P.S." (150/12), Office of this Paper.

A SSISTANT; active; disengaged; references; 15 years' experience. Fawcett, "Blencogo," Dinarth Road, Colwyn Bay.

A SSISTANT; 26; unqualified; London or suburbs; good all-round experience; disengaged. Grant, 10 Shinfield Street, W.

QUALIFIED; Manager; 45; active, energetie; moderate salary; best reference; near London. 149/13, Office of this Paper.

QUALIFIED: 24; Counter, Dispensing, Photography; outdoor; North Wales district preferred. 149/15, Office of this Paper.

UNQUALIFIED; first-class experience, Dispensing, Prescribing, Protographic; aged 26. "Aspirin," Hyslop, Ltd., Chemists,

MANAGER; temporary; qualified; large experience; Photography, Extractions; disengaged. F. Jackson, 21 Burton Road, Ashby, Leicester.

UNQUALIFIED, 10½ years' experience, desires situation; Manchester or Wigan district preferred. "Quinine" (149/5), Office of this Paper.

UNQUALIFIED; 25; permanency; Dispensing, Prescribing, Photography, Extractor; first-class experience. "N. H." (150/6), Office of this Paper.

QUALIFIED; 29; Manager or Senior; abstainer; tall; good appearance, and thoroughly reliable. "Statim" (150/39), Office of this Paper.

D¹SENGAGED; temporary or permaneut; 18 years' experience; Road, Lavender Hill, S.W.

MAJOR, first-class London and Paris experience, requires situation Frauce or French-speaking Switzerland; disengaged February. "Menthol," 8 Rue d'Argenteuil, Paris.

Manchester or district; qualified; 24; tall; Photography; excellent references and experience; time for evening classes. Fletcher, 50 King's Road, Prestwich, Manchester.

A SSISTANT; 27; first-class Retail, Dispensing, and Photographie experience; permanency required; highest references; disengaged. "Statim," 13 Victoria Terrace, Herne Bay.

RELIABLE Assistant in good-class business; good Connter, Dispensing, and Photographic experience; capable to manage; unqualified; abstainer. "E.," 18 Sainfoin Road, Balham.

MANAGER or Senior Assistant; 35; single: qualified; 6 ft. in height; foreign, provincial, and West-end experience; good references; disenguged February 10. 149/20, Office of this Paper.

QUALIFIED; 30; disengaged; excellent experience; good Prescriber and Dispenser; knowledge of Photographic trade; capable of taking charge. W. L. Lawrence, Newton Rigg, Penrith.

RANCH Manager; qualified; 35; disengaged end of March or earlier; permanency desired; would occupy house attached; wide experience; Dispenser, Prescriber, Extractor. 151/25, Office of this Paper.

Assistant or Branch Manager; married; unqualified; 14 years' City, West-end, and coast town experience; good address; Extractor. Prescriber. Photography; abstainer; disengaged. 151/35, Office of this Paper.

UNQUALIFIED Assistant; tall; good Dispensing experience; 26. Yardley, Ruabon.

UNQUALIFIED; tall; good experience; age 29. "Rhei," 32 Lock Road, Broadheath, Cheshire.

PART time; excellent experience; best references; London. "Unqualified," 45 Devonshire Road, Ealing.

QUALIFIED; 26: experienced; disengaged shortly; first-class reference. Address, 151/34, Office of this Paper.

AS Manager; qualified; married; 15 years in last situation. Croft, Post Office, Great Crosby, near Liverpool.

QUALIFIED; 26; West-end and country experience; good Dispenser; disengaged. 151/28, Office of this Paper.

MANAGER; qualified; 30; abstainer; reliable; married; permanency; disengaged. 150/14, Office of this Paper.

JUNIOR (20), knowledge Photography, requires situation, Birmingham. "S. C.," 94 Regent Street, Smethwick.

A SSISTANT; unqualified; tall; 27; experienced, Mixed Business, Photography. "A.," Chemist, Cottenham, Cambs.

A SSISTANT; good, all-round experience, town and country; permanency; married. "S.," 42 East Street, Dorchester.

QUALIFIED; 27; first-class Dispensing experience, knowledge of Photography. "Statim," 88 Peelhouse Lane, Widnes.

SENIOR or Branch; unqualified; 30; tall; good references; liberty early February. "Aspirin," 16 Shaw's Lanc, Altrincham.

QUALIF1ED; 22; tall; good, all-round experience; outdoors. A. Haywood, Blackmoor Road, Crosland Moor, Huddersfield.

JUNIOR; 19½; 6 ft.; 4½ years' experience; good references; disengaged February 13. Henson, 16 Royle Road, Chorley, Lancs.

LOCUM or permanent; disengaged; good references; competent and reliable. "Statim," Greenbank, Albert Road, Ramsgate.

MANAGER or Assistant; qualified; 25; London and provincial experience; outdoors. Marshall, 18 Netherford Road, Clapham, S.W.

LOCUM, Manager, or Dispenser; qualified Chemist; now disengaged; good experience and references. Walker, 625 Seven Sisters Road, N.

MANAGER; qualified; exceptional experience; good-class business; temporary or permanent; moderate salary. "P.," 19 Shrewsbury Road, W.

JUNIOR (19½), height 5 ft. 8 in., requires situation in good class business; 4 years' experience; Dispensing and Photography. Hughes, 32 Splott Road, Cardiff.

JUNIOR: 20; good all-round experience; Dispensing, Photography; abstainer; disengaged. T. B. Minor, 50 Woodfield Road, Kiug's Heath, Birmingham.

A SSISTANT in London; age 24; time for study and attending lectures; good references. Please state full particulars, "Dispenser," o/o Smith, Chemist, Newark

QUALIFIED Chemist, with wide experience of Management, desires same position; provinces or suburbs; disengaged end of February. "Pyro," 172 Warwick Street, S.W.

A SSISTANT; unqualified; age 29; height 5 ft. 10½ in.; present situation 4 years; permanency; liberty February 9. "Rhoedos," Rose Lea, Cranford Avenue, Knutsford, Cheshirc.

M.P.S. 25; 9 years' good-class experience; knowledge of permanency preferred. Le Rossignol, 11 Parade Road, St. Helier, Jersey.

MANAGER or Assistant; good appearance; Store experience; married; Prescriber, Extractor, Photography; preferable succession, or buy small business; disengaged. 24 Caldmore Green, Walsall.

QUALIFIED (Major); 26; best-class Dispensing and Retail experience; excellent references; provinces preferred; permanancy desired, with good prospects. Brooks, Central Pharmacy, Pajornton.

UNQUALIFIED; age 24; smart man; disengaged on the 3rd February; Retail and Wholesale experience; good Stock-keeper. Specialities and Travelling, Wholesale or Retail. E. G. Woodley, Kirton, Lines.

WHOLESALE.

EXPERIENCED Travelling and Window-dressing Agent is open to arrange Window-displays, London district, on bonus system. Pierce, 10 Lunham Road, Upper Norwood, S.E.

SITUATION required; 11 years' experience Retail and Wholesale; good references; aged 30. 149/28, Office of this Paper.

TRAVELLER (32) seeks appointment with first-class house; present position 9 years. 151/17, Office of this Paper.

CAPSULE maker and Gelatine-coater, 5 years' experience, seeks situation. Apply, "J. D." (192/54), Office of this Paper.

MAJOR seeks situation in Pharmaceutical or Analytical Laboratory; 3 years' Analytical experience. 151/19, Office of this Paper.

MAJOR secks situation in Pharmaceutical or Analytical Laboratory; 18 months' Analytical experience. Greeves, Wrentham,

REPRESENTATIVE (30), good connection, open to Represent good house; first-class references. Williams, 27 Trinity Square, Brixton, S.W.

REPRESENTATIVE; M.P.S. seeks position as such for West of England; highest references; good address. 32 St. Andrews Road, Bristol.

TRAVELLER with connection will Represent another firm; salary or part expenses, commission. Chard, 34 Petherton Road, Canonbury, N.

YOUNG lady, used to Packing Proprietaries, etc., seeks berth; 7 years last situation; excellent references. "N.," c/o Pratt, Chemist, West Kilburn.

WHOLESALE or Retail; 36; tall; expert Photographer; good Counterman; or can Manage store, Photographic section. "G. M.," 17 Watcombe Terrace, Ponders End.

TRAVELLER, representing old-established firm, with large connection, would take additional Side-line; part expenses and commission. W. Good, 4 Markham Square, Chelsca.

Young man, with 16 years' experience in executing orders, Laboratory, and bookkeeping, desires re-engagement; could travel. "H.," c/o 43 Victoria Road, Northampton.

YOUNG gentleman (age 27), sound knowledge of Drug and allied trades, seeks position of trust; good references; moderate salary; 7 years' experience; home or abroad. 145/29, Office of this Paper.

A S capable Warehouse Assistant, attend to and put up Stock, assist at Dispensing Counter, be generally useful; 20 years' all-round knowledge of the trade; good reference. "H.," 2 Mill Road. Lowestoft.

A DVERTISER, good business experience, capable Accountant, requires engagement; Correspondence, Books, or general work, long references; salary moderate. Reply, "N. M." (118/20), Office of this Paper.

CENTLEMAN (aged 39), of good appearance and qualified Chemist, wishes to Represent a first-class Drug or Specialité house in West of England; salary and expenses. "Pax" (150/22), Office of this Paper.

TRAVELLER, well known, with 16 years' valuable connection, desires re-engagement for North of England and North Midlands; Pioueering Specials or Sundries; any branch; good references; satisfactory reasons for change. "Bradford" (153/9), Office of this Paper.

TRELAND.—Pharmaceutical Chemist having intimate knowledge of Wholesale and Retail Drug trade, also Surgical and Sundries, is open to act as Agent or Traveller for good firms; good address and long experience; satisfactory references given. Replies to 136/40, Office of this Paper.

SITUATIONS WANTED (continued).

DVERTISER (25), sound commercial training and some know-A DVERTISER (25), sound connucreial training and some know-ledge of Pharmacy, Botanical Therapeutics, and Pathology of Disease, desires position in Wholesale Drug, Optical, Dental or Surgical Instrument or Dressings house; could invest capital; excellent testimonials. 149/18, Office of this Paper.

TRUSTWORTHY and energetic worker desires position as Representative; Drugs or Sundries; thorough knowledge of the trade, and capable of calling on Medical men; aged 27; good personality; last two berths 10 years; first-class credentials; disengaged February. "Salol" (149/33), Office of this Paper.

N.B. Representative might you want?—Au energetic, experienced Pharmacist of good presence; well recommended; offering guarantee and with connection; satisfaction assured, and orders awaiting up-to-date leading house. Just address particulars, mentioning remuneration, "General Drugs" (153/29), Office of

ERMAN (26) wants situation in Wholesale house or Manufactory; Druggist, 4 months in Londou; experienced bookkeeper, double entry and tabular system, shorthand (German), typewriting; 11 years' business experience; highest references; holder of the Leipzig Commercial University diploma. Otto Hoffmanu, 64 Plympton Road, Brondesbury, London, N.W.

MISCELLANEOUS.

MCADAM & TUCKNISS, Sharedealers, 30 Tranquil Vale, Blackheath, S.E. Telephone 81 Lee Green.

SHARES FOR SALE (free of commission, subject).—210 Allen & Hanburys 1st Preference, 24s. 9d.; 526 Camwal Ordinary 2s., 131 Preference 8s. 10½d.; 300 Synoloids (proprietors and manufacturers of Patent New Ensyna Paper and Ensynoids Developer) £1 fully-paid Shares, 16s. 3d.; 85 G. B. Kent Preference, 17s.

List of shares for sale and wanted sent free on application. Bankers, London and County. Established 1898.

WERY FINE SET OF MAHOGANY SHOPFITTINGS.—As goed as new and ready for immediate despatch: 16-ft. drug-fitting, mirror centre, pilasters with carved trusses and span rails, poison cupboard, etc.; 17-ft. mahogany serving-counter, glass cases in front and drawers behind; 6-ft. bent plate-glass counter-case; perfume case and desk; tower case, 3 ft. high by 2 ft. square; 10-ft. mahogany wallease; handsome screen, with centre mirror down to ground and cases either side, with mirror backs and glass-shelves; 75' guineas complete. PHILIP JOSEPHS & SONS, LTD., 93 Old Street, Goswell Road, London, E.O.

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Supplementary News.

Association Affairs.

LEICESTER CHEMISTS' ASSOCIATION.—A meeting of this Association was held on January 19, at the Turkey Café, to discuss the Pharmacy and Poisons Act. Mr. S. F. Burford, F.C.S. (President of the Association), occupied the chair. There were also present Messrs. Attenborough (Melton), Hampton, Hind, Hearnshaw, Rowe, Lewis, Woolley, Clear, E. B. Ward, Johnson, B. Ward, Martin, Foreman, Blockley, Cleaver, Fry, Tomlin, Peberdy, E. H. Butler, Macdonald, and Avery and Marfitt (Hon, Secretaries). Mr. Johnson was elected a member. Mr. Burford reviewed generally the new Poisons and Phar-Marhtt (Hon. Secretaries). Mr. Johnson was elected a member. Mr. Burford reviewed generally the new Poisons and Pharmacy Act, and said that on the whole the trade had not things on a more satisfactory basis. Many points were discussed, nearly all members present taking part, especially in regard to the granting of licences to unqualified persons to sell agricultural and horticultural poisons. One of the chief difficulties seemed to be the want of a well-understood definition as to what was really meant in the Act by "carrying on the business of a chemist and druggist." After a long dis-cussion, in which no really definite proposition was brought forward or effective resolution arrived at, it was ultimately decided to adjourn the meeting until February 9.

PUBLIC DISPENSERS' ASSOCIATION.—The annual general meeting was held at St. Bride Institute, London, E.C., on Wednesday evening, January 27, Mr. H. C. T. Gardner, F.C.S., in the chair. Owing to non-attendance of the auditors and the day evening, January 27, Mr. H. C. T. Gardner, F.C.S., In the chair. Owing to non-attendance of the auditors and the Secretary, the Treasurer's and Secretary's reports were adjourned until the next meeting. Resolutions that the auditors should be appointed at the last meeting preceding the annual meeting, and that the session should begin in October and end in April, were adopted. Another resolution affecting the election to membership was adjourned. The office-bearers were then unanimously elected as follows: Chairman, Mr. R. W. Lindsey, F.C.S.; Vice-Chairman, Mr. G. W. Udale; Treasurer, Mr. H. H. Hewitt; Secretary, Mr. S. H. Leadbeater; Assistant-Secretary, Mr. C. T. Rutter, F.C.S.; members of Council, Messrs. F. Noad Clark, W. Duff, O. A. Elias, H. C. T. Gardner, W. E. Miller, G. W. Lindsay, C. T. Rutter, R. Welford, and W. H. Windmill. The Chairman then addressed the members in a valedictory manner, and, referring to the new conditions, said the pharmacists coat of arms should now have Despair and Disgust as supporters, the field of escutcheon should be coloured grey, crossed with a bar sinister, sable, and the motto "All hope abandon, ye who enter here." The pitiable pass of advertisements offering inadequate remuneration to dispenser he attributed to pharmacy being tainted with trade, insidious competition. offering inadequate remuneration to dispenser he attributed to pharmacy being tainted with trade, insidious competition among themselves, and the fact that women, however unwittingly, keep down the salaries offered for their services. Mr. Lindsey paid a tribute to the energy and ability of the retiring Chairman during his three years in office. He then detailed how the new schedule of poisons would affect them in storing and labelling poisons. He hoped the title of "public pharmacist" would replace that of "public dispenser."

Festivities.

SCARBOROUGH PRIVATE DINNER.—The annual dinner of the Scarborough Chemists' Association was held on January 27, but the Secretary (Mr. Senior) informs our representative that the proceedings were to be treated as private.

WHIST.—Always marked for their social events, the Thames Valley Chemists' Association, notwithstanding the fog, on January 27 surpassed their previous efforts on the occasion of their second whist-drive, when a company numbering nearly eighty spent a most enjoyable evening. The tables were arranged in the Roseberry Hall at Nuthall's Restaurant, the staurant, the staurant of the the tableth tableth gaves after the staurant. Kingston-on-Thames, and after the twelfth gaine refreshments Alligston-on-1 hames, and after the tweitth game refreshments were served in the Knight's Chamber adjoining. Play finally finished at about half-past ten, when the scores were totalled and the prizes declared as follows: Gentlemen's prizes—(1) Mr. Fred. Harvey, (2) Mr. Greenhill. (3) Mr. W. Windermere. Ladies' prizes—(1) Mrs. Grieves, (2) Miss M. Whiting, (3) Miss Milne. The prizes were distributed by Mrs. E. T. Neathercoat (the President's wife). The arrangements were in the hands of Messrs. Harvey, Higgs, and Evans (Hon. Secretary).

LANCASTER DINNER.—The second annual dinner of the Lan-LANCASTER DINNER.—The second annual dinner of the Lancaster Chemists' Association was held at the King's Arms Hotel, Lancaster, on January 27, Mr. William Arkle (President) in the chair; supported by the Mayor (Councillor Wilson), Messrs. J. Vince, S. Taylor, R. T. Simpson, R. S. Angus, A. W. Marshall, A. T. Maxwell, J. F. Barker, A. Bate, W. Gorst, Jackson, J. B. Shattock (Secretary), T. H. Cuthbert, W. W. Moses, Cockcroft (of Lancaster), Porteous (of Carnforth), A. Knowles, Parker, F. N. Whitehead (of Morecambe), and Swineburn (London). The toast of "The Town and Trade of Lancaster" was proposed by Mr. Parker and acknowledged by the Mayor. Mr. Robinson submitted the toast of "The Lancaster Chemists' Association," in responding to which the President expressed his gratification that every chemist within an eighteen-mile radius was a member of the Association. Although that was only the second dinner, the Association was first established forty years ago. There are two original members still alive, Mr. Cuthbert and Mr. Joseph Albright the latter of whom has just celebrated his ninety-Albright, the latter of whom has just celebrated his ninety-third birthday. The Association is working smoothly and proving beneficial to the members in many ways. Mr. Taylor proposed "The Visitors," and Messrs. Gill and Curtis replied. A capital programme of music was rendered by Mr. Grosso

RETROSPECT.—The eighth annual dinner of Nottingham A RETROSPECT.—The eighth annual dinner of Nottingham and district managers of Boots, Ltd., was held at the Mikado Café, Long Row, on January 27. Mr. A. Thompson presided, and there was a large attendance. Mr. A. J. Smith (Lincoln) proposed the toast of "The Company," which was first acknowledged by the Chairman and then by Mr. A. Milne, who referred to the Poisons and Pharmacy Act and the historic meeting of the drug-trade which took place in a room at St. Pancras Hotel during last autumn. At that meeting Mr. Jesse Boot was present. There was the man who was duely as a trade Jesse Boot was present. There was the man who was dubbed by a former President of the Pharmaceutical Society as a trade pirate welcoming regulation of the companies' shops by the Pharmaceutical Society in the interest of the public. There were men, the successors to those who had been taunted as the were men, the successors to those who had been taunted as the Mrs. Partington of the drug-trade, and behold they were as up to date as a company director as to the necessity of chemist companies being recognised and regulated. It seemed to take the Society's representatives rather by surprise that Mr. Boot was willing unreservedly to accept their proposal, and he (Mr. Milne) was himself surprised at the moment. The last stages of the Bill were dramatic in their swiftness. Just on the closing of the Session it became law, and Mr. Boot's twenty-five years' fight was over.

Athletics.

SHEFFIELD PHARMACY ATHLETIC CLUB.—The annual general meeting of this Club was held on Monday night in the Temperance Hall, Townhead Street. The following officers were elected: President, Mr. Percy Carr; Vice-Presidents, Messrs. Jackson, Williams, and Chadwick; Treasurer, Mr. J. T. Appleton; Secretary, Mr. Lansdell; General Secretary, Mr. Preston; Committee, Messrs. Knowles and Cowtes; Captain, Mr. Twelves; Vice-Captains, Messrs. Stather and Massey. The resignations of Messrs. Pater, Crouch, Newsholme, and Squire were received and accepted. The Secretary reported that ten matches had been played, with very fair results, and asked for better support of the Club by the members. The Treasurer reported the Club to be in a very flourishing condition financially. Other business included the alteration of the Club name to "The Sheffield Chemists' Athletic Club," and final arrangements were made for the Club dance at the Imperial Rooms. for the Club dance at the Imperial Rooms

Chemists' Athletic Club," and final arrangements were made for the Club dance at the Imperial Rooms.

LEICESTER PHARMACY ATBLETIC CLUB.—The President of the above Club (Mr. F. J. Brett) took the chair at the annual meeting, which was held at the Turkey Café, Granby Street, Leicester, on January 26. There was a disappointingly small attendance. The Secretary (Mr. A. E. Young) in presenting his report, showed that last year seventeen matches were played—seven won, seven lost, three drawn, and four abandoned through rain. The average runs per wicket were 7.14 for the Club, as against 9.06 for the opponents. The balance-sheet showed a balance in hand of 51. 11s. 2d., as against 2l. 1s. the previous year. The batting and bowling prizes were awarded to Mr. W. H. Smith and the bowling to Mr. T. C. Peberdy. The fielding prize was won by Mr. H. Chawner. The reports having been discussed and adopted, Mr. Brett urged that in inter-pharmacy club matches the very best team possible should be chosen, and that members generally should make every effort to be smart in all departments of the game, so as to play the game to win when possible, saying that he had noticed several bits of laxity in two or three games. Votes of thanks to the retiring officers having been accorded, the following officers were elected for the ensuing season: President, Mr. F. J. Brett; Vice-Presidents. Messrs. S. F. Burford, H. W. Clear, S. Cleaver, E. A. A. Fry, F. W. Gooddess, A. D. Hearnshaw, W. T. Hind, G. E. Marfitt, E. Wand, E. B. Ward, F. T. Wilby; Captain, Mr. G. E. Marfitt, Vice-Captain, Mr. E. Tomlin; Hon. Secretary, Mr. A. E. Young; Hon. Treasurer, Mr. E. A. A. Fry; Committee, Messrs. J.-H. Miles. T. C. Peberdy, H. A. Martin, and J. W. Huzzard; Selection Committee, Messrs. Miles and H. H. Dennis, with the Captain, Vice-Captain, and Secretary. H. H. Dennis, with the Captain, Vice-Captain, and Secretary.

High Court Cases.

Antineurasthin Contract.—On January 28, in the King's Bench Division of the London High Court, Mr. Justice Jelf and a common jury had before them an action by Mr. William Migge, of 10 Eastcheap, against Mr. Vincent de Moncho, for damages for breach of contract, slander, and libel. After statements by counsel and evidence by the plaintiff, counsel and their clients consulted with his Lordship, after which Mr. Groser, for the defendant, said he was pleased to say that the parties had come to terms, and the record would be withdrawn. The defendant withdrew all imputations and regretted he had made them. Plaintiff denied having made any imputations on defendant, and disclaimed any intention of having made any defamatory imputations upon him. Mr. of having made any defamatory imputations upon him. Mr. Simmons, on behalf of the plaintiff, accepted the statement. Plaintiff never imputed anything to the defendant, and they accepted the defendant's apology. His Lordship thought this settlement highly satisfactory.

SACCHARIN PATENTS.—In the Chancery Division of the High Court of Justice in Ireland, Four Courts, Dublin, before Mr. Justice Barton, on January 27, the case of the Saccharin Corporation, Ltd., of 165 Queen Victoria Street, Dublin, against Jacks Mineral-water Co., Belfast, came on for hearing. Mr. Matheson, K.C., for the plaintiffs, said the action was brought for an injunction restraining defendants from infringing patents of the plaintiffs, and else pastents of the plaintiffs. patents of the plaintiffs, and also restraining defendants from manufacturing, selling, or using a certain compound called saccharin, manufactured in the manner described in specification filed in pursuance of several Letters Patent vested in the plaintiffs. Consequential relief was also sought. From an early period, counsel said, attempts had been made, consequent on the high duty, to smuggle saccharin into this country under different names, to obviate getting it from the patentee. Counsel's clients held all the patents of it for this country, and it could not be made except by them. The plaintiffs had seven patents in all. The defendants, John McChree and Frederick Wright (trading as Jacks Mineralwater Co., Ltd.), had infringed the patent no fewer than six times from September 29, 1894, to September 29, 1899, in the matter of purchasing, importing into, and supplying and using saccharin in this country made and manufactured with (or only colourably differing from) the specification of the plaintiffs' Letters Patent; and he related the importing to Belfast from Rotterdam, via Hull, by defendants of a large number of cases of saccharin. Mr. Daniel Wilson, counsel for defendants, said his clients had not infringed the patents of plaintiffs. The cases of saccharin referred to were not imported by, nor did they belong to, the defendants. Mr. Justice patents of the plaintiffs, and also restraining defendants from ported by, nor did they belong to, the defendants. Mr. Justice Barton granted an injunction in regard to two of the patents as against the defendants, with an inquiry as to damages, and costs.

Noxious Drugs.

At the Leicestershire Assizes on January 26, before Mr. Justice Darling and a jury, Harry Bickley (54), engine-driver, was found guilty of supplying to Maud Pickering borax, contained in powders, and aloes in pills, with intent to procure abortion, at Hugglescote, between September and December 1908, and in particular on September 14, November 4, December 1, and December 23, 1908 (see C. & D., January 16, p. 72). Sentence was deferred until Wednesday, when Mr. Justice Darling inflicted five years' penal sarvitude. penal servitude.

paral servitude.

At the same court on January 27, Elizabeth Cart (28), patent-medicine dealer, was charged with supplying to Rosanna James a certain noxious thing—namely, aloes, contained in pills and mixture—with intent to procure a miscarriage, at Coalville, between the months of September and December, 1908. On November 6, November 13, and December 11, 1908. Prisoner traded as Nurse Glynn (see C. & D., January 23, p. 102). Among the witnesses for the prosecution was Dr. Bernard Dyer, F.I.C., who analysed the preparations. The prisoner, in evidence, stated that it was head-and-stomach pills she had given to Mrs. James. Handed a box of pills, prisoner said they were "for irregularities," and were made at Berridge's, Market Place, Leicester, from a prescription of Potter & Clarke's, wholesale chemists, London; this she got from the wholesale price-list. The next witness, Mr. Herbert Clarke, manager to Messrs. Berridge, testified that his firm supplied the prisoner with pills, which were made according to Potter & Clarke's prescription, and (after instruction from the Bench) said the pills were ordered either from Messrs, T. H. Lloyd & Co., Leicester, or from Messrs, E. H. Butler & Son, Leicester. Son, Leicester.

His Lordship, interposing, said this was most unsatisfactory. The case must be tried and thoroughly investigated. At present it was impossible to say what were the constituent parts of the pills. The last witness could not prove what they were. The suggestion was that the pills contained one-half grain of aloes per pill. Dr. Dyer had carefully analysed them, and said they contained at least one and three-quarter

grains of aloes. The last witness had been called to say he ordered from a formula in a price-list which he sent either to Messrs. Butler or Messrs. Lloyd, and received the pills. In answer to his Lordship, Mr. Powers said he was not prepared with evidence either from Messrs. Butler's or Messrs.

His Lordship then said it would be most unsatisfactory to have a verdict either of guilty or not guilty upon this evidence, which questioned Dr. Dyer's analysis. He then discharged the jury and adjourned the case until the next Assizes, prisoner being admitted to the same bail as before. He also ordered that the pills be analysed by another analyst, in order that he might be called upon, when the case is again tried to give evidence as to their composition. The analyst who might be decided upon—he suggested Dr. Wilcox, the Home Office analyst—and Dr. Dyer were to see the formula in Potter & Clarke's price-list, in order that they might ascertain if the pills were made in accordance with it.

Sale of Food and Drugs Acts.

Cassia.—At Guisborough on January 26, Isaac J. Knox was ordered to pay 7s. costs for selling adulterated cassia.

CREAM OF TARTAR.—At the Clerkenwell Police Court on January 27, Howard Stanley and Arthur Salmon, trading as J. Salmon & Son, 213 Holloway Road, were summoned for selling cream of tartar containing 0.0175 per cent. of lead in combination. The offence was admitted, and Mr. Bros (the Magistrate) ordered defendants to pay the costs—12s. 6d. They explained that the cream of tartar was old stock, for which a contract had been given at the time.

guarantee had been given at the time.

guarantee had been given at the time.

TR. QUININE AMMON.—The adjourned summons against Mr. A. F. Fosse, chemist and druggist, 329 Old Kent Road. S.E., for selling ammoniated tincture of quinine deficient in quinine came before Mr. Baggallay at the Tower Bridge Police Court, London, on January 27. At the previous hearing (reposted in the C. & D., January 23, p. 107) Mr. Kirby, on behalf of the defendant and the Chemists' Defence Association, advanced technical objections to the form of the analyst's certificate, and the hearing was adjourned in order that the solicitor of the Borough Council might attend. This was now done, and after the argument Mr. Baggallay overruled the objections. Gound the charge proved. and imposed a fine the objections, found the charge proved, and imposed a fine of 40s., with 15s. costs.

Bankruptcy Report.

Re SIDNEY FRANCIS Goss.—This debtor attended before Mr. Registrar Hope at the London Bankruptcy Court on January 28 for public examination upon accounts showing total liabilities 18.1801. 17s. 9d. (unsecured 5,0801. 17s. 9d.) and assets "10,580 shares in Morny Fréres, Ltd., and fifty mining shares." Replying to Mr. G. W. Chapman, Official Receiver, the debtor stated that prior to 1893 he was employed as a chemist's assistant, and in that year, with two others, he formed a company to carry on a chemist and druggist's business of which he acted as manager and director at a salary tormed a company to carry on a chemist and druggist's business, of which he acted as manager and director at a salary increasing to 450l. a year. Witness acted up to 1902 as manager of the Crown Perfumery Co., and was then engaged in negotiations for the purchase of a business, but there was no result. In May 1905, with 2,000l. advanced by a friend, he started a chemist and druggist's business at 110 New Bond Street, with a given to transforming it to a company, which started a chemist and druggist's business at 110 New Bond Street, with a view to transferring it to a company, which was registered as Morny Frerès, Ltd. He recevied 13,000\(lambda\), us hares, and was appointed managing director at a salary of 1,200\(lambda\), a year, but had only received about 500\(lambda\). in respect of that remuneration, and the company was now in voluntary liquidation. His present liabilities were mainly due in respect of moneys borrowed to finance the company, and they practically represented accumulated interest, the original loans having been paid off. Witness had guaranteed the loans on the company's behalf. The contingent liabilities were returned at 12.900\(lambda\), and related to money lent to the company; 6,900\(lambda\), of the amount was secured by debentures, and a promissory note signed by himself and two others, and the remaining 6.000\(lambda\) by a policy on his life for 10,000\(lambda\). and the guarantee of himself and two other persons. He had lived at the rate of 600\(lambda\), a year, one-third of the amount being paid to his wife under a separation deed. The examination was concluded. Mr. R. Raphael attended for the debtor.

Radium.

IT IS ANNOUNCED that the King will shortly grant a Royal charter establishing a Royal British Radium Institute. Charter establishing a Royal British Radium Institute. The Institute will carry out research work, and have a medical department for the treatment of cases in which experimental work has shown the possibilities of a radium-cure. The Institute will include on its medical and chemical council Sir Frederick Treves, Sir William Ramsay, Professor Sir J. J. Thomson, the Hon. R. J. Strutt, and Mr. Henry Morris (President of the Royal College of Surgeons).

191/41. Who can supply coniferrin in pure form? 193/15. Address of the manufacturers of Sydenham's Champion Embrocation.

London Drug Auctions.

Thursday, January 28.
Owing to the dense fog which prevailed in the City on Wednesday the drug-auction was postponed until 1 P.M. to-day, but with a unanimous desire to make up for lost time matters were expedited and the sale concluded at 2.40 P.M. matters were expedited and the sale concluded at 2.40 P.M. Cape aloes, cardamoms, sarsaparilla, and beeswax were in excellent demand. The following were the principal alterations: Cape aloes on "estimated tares" advanced 3s. Buchu tended easier, benzoin quiet, and cardamoms "full up." Ipecacuanha steady, rhubarb quiet, sarsaparilla steady, and beeswax firm to 2s. 6d. dearer, especially for Zanzibar. The following table shows the amount of goods offered and sold:

| Offered Sold | Offered Sold |
|--|--------------------------------|
| Aloes- | Kamala 6 0 |
| Cape 39 39 | Kola 2 2 |
| Curação (bxs.) 49 16 | Lime-juice 12 0 |
| Socotrine (kegs) 10 0 | Myrrh 23 0 |
| Zanzibar(skins. cs.) 4 4 | Oil— |
| Ambergris (tins) 5 2 | Backhousia cit. 2 0 |
| Aniseed (Russ.) 20 0 | cassia 2 0 |
| Balsam— | cinnamon-leaf 5 0 |
| Copaiba 4 0 | citronella (Java) 1 1 |
| Belladonna-root 8 0 | clove 2 0 |
| Benzoin- | eucalypt 27 0 |
| Palembang 19 6 | lemongrass 10 1 |
| Siam 8 4 | lime 9 5 |
| Sumatra 110 22 | neroli (botts.) 9 9 |
| Buchu 25 0 | Orange-peel 20 8 |
| Calumba 39 16 | Papain 5 0 |
| Camphor (Ch. cr.) 25 0 | Quillaia-root 1 0 |
| 4-oz. tabs. (cs.) 5 0 | Rhubarb (China) 68 10 |
| Canella alba 5 5 | Sandarac 8 0 |
| Cantharides(China) 5 0 | Sarsaparilla— |
| Cardamoms 217 194 | Grey Jam 44 42 |
| Cashew-nuts 40 0 | Honduras 2 0 |
| Cinchona 20 0 | Lima 14 7 |
| Civet (horns) 5 0 | Native 13 13 |
| Cloves 1 0 | Scablac 6 0 |
| Colchicum-root 26 0 | Seedlac 100 0 |
| Cubebs 23 0 | Senna- |
| Cuscus 32 0 | Alex. leaf 33 0 |
| Dragon's-blood 7 0 | jols 21 5 |
| Elemi 30 0 | Squill 5 0 |
| Ergot (Span.) 11 6 | Tamarinds 5 0 |
| Gamboge 18 0 | Tonka beans 1 1 |
| Gum arabic 12 0 | Turmeric |
| Honey— | Vegetable-fat (cs.) 50 0 |
| Calif 65 0 | Wax (bees')— |
| Honolulu (cs.) 100 20 | Australian 2 0 |
| Jamaica 2 2 | East Indian 15 0 |
| Ipecacuanha— | Egyptian 51 51 |
| Cartagena 18 0 | Jamaica 2 2 |
| Matto Grosso 11 3 | Mombasa 60 60 |
| Minas 5 0 | Zanzibar 124 124 |
| Jalap 4 4 | Wax (veg.) (Japan) 10 0 |
| Control to the terminal to the | ane aloes offered consisted of |
| | |

the Cape aloes offered Algoa Bay, which sold on estimated tares, with good competition at an advance of 3s. per cwt. Good to fine hard bright realised from 29s. 6d. to 30s. 6d., fair ditto 28s. 6d. to 29s., and for broken partly drossy and mixed with dirt 25s. to 26s. was paid. Of 49 boxes Curação 16 sold at 45s. per cwt. for dark liver, and for fair Capey 29s. was refused; 4 cases Zanzibar in skins sold at 80s. for good hard hepatic, and at

Zanzidar in skins sold at 80s. for good hard hepatic, and at 78s. for darker and very skinny.

Balsam Copaisa.—Four cases of muddy Bahia were bought in at 2s., the limit being 1s. 10d.

BENZOIN.—A feature was the offering of 21 cases Palembang in small tins in cases, this description having been scarce for several months; six cases were disposed of at 44s. for very barky seconds. Of Sumatra 20 cases of fair almondy Sumatra, slightly takes packed, realised from 64 5s. to 74 per cent. barky seconds. Of Sumatra 20 cases of fair almondy Sumatra, slightly false packed, realised from 6l. 5s. to 7l. per cwt.; sales privately of good almondy have been made at 8l. Seven cases Siam offered, of which 2 cases fine bold pale loose almonds (which realised 27l. on the previous occasion) were bought in, a bid of 25l. 15s. being refused; 19l. was also refused for medium almonds; two cases of pea and bean were sold at 14l. to 14l. 2s. 6d., and a case of small grains and brown dust brought 7l. 15s. per cwt.

BUCHU.—Tending easier in view of new crop arrivals. Twelve bales, mostly fair greenish round, were bought in at 10½d., the broker intimating he would take less.

CALUMBA.—Fifteen bags of roots sold at 15s.

CALUMBA.—Fifteen bags of roots sold at 15s.

CAMPHOR.—Five cases Japanese refined (4-oz. tablets) were offered and held at 1s. 10d.

CAMPLIA ALBA.—Five bales of open flat thick sold at 48s. per

Cardamoms were in brisk demand and brought fully previous prices. Ceylon-Mysore fine pale bold smooth sold at 3s.; ditto, slightly split, 2s. 6d.; bold long palish to pale, 2s. 3d. to 2s. 6d.; bold and medium palish to pale, 2s. to 2s. 2d.; medium palish to pale, 1s. 10d. to 1s. 11d.; medium

and small palish to pale, 1s. 7d. to 1s. 9d.; small pale, 1s. 6d.; shelly splits, 1s. 6d. to 1s. 7d.; small brown and picking, 1s. 3d. to 1s. 5d.; decorticated seed, good, 1s. 11d.; ordinary Malabar seed (12 cases) sold at 1s. 8d. to 1s. 9d.; 18 cases Ceylon Malabar pods were bought in at 1s. 9d. for good small brown

small brown.

ERGOT.—Six bags of old, slightly weevily, sifted Spanish sold without reserve at 1s. 4d.

Honey.—Practically no Jamaica was offered, the chief sale being 20 cases Honolulu at 26s. per cwt. for off-colour set.

IPECACUANHA.—Quiet. Three bales of fair bright Matto Grosso sold at from 5s. 1d. to 5s. 2d.; five bales Minas were bought in at 5s. 3d., and 18 bags Cartagena at 4s. 9d., the price being 4s. 6d.

price being 4s. 6d.

JALAP.—Four bags of fair small to bol d(without analysis) sold at 1s. 2d.; no discount or allowances.

KOLA.—Two barrels of slightly mouldy and dark Jamaica sold at $1\frac{1}{4}d$.

KOLA.—Two barrels of slightly mouldy and dark Jamaica sold at \$1\frac{1}{4}d.

MyreH.—Five bales bold pea-size were bought in at 70s., and three bales dusty siftings at 65s.

OIL, LIME.—Steady. Four cases and 14 bottles West Indian distilled sold at 2s. \$9d\$., and one bottle bay oil at 6s.

OILS, ESSENTIAL.—A single case of Java citronella oil sold at 2s. per lb., and a case of Java Lemongrass oil (without analysis) found a buyer at \$2\frac{1}{2}d\$. per oz. Nine bottles of Neroli oil of doubtful quality sold at from 1s. \$9d\$. to 3s. per oz., without reserve. Privately 14s. is quoted for genuine oil. Two cases of *Baekhousia* citriodora* were held for 8s., and 27 cases Amygdalina eucalyptus at \$7\frac{1}{2}d\$. per lb.

Orange-peel.—Eight cases new crop Maltese sold without reserve at \$4\frac{1}{2}d\$. per lb.

Rhubarb.—Quiet. Ten cases of medium round horny Highdricd with \$\frac{3}{4}\$ fair pinky fracture and \$\frac{1}{2}\$ dark sold without reserve at from \$4\frac{3}{2}d\$. to 5d. per lb. No sales of protected lots were made. Small round Shensi and trimming root, rather dull coat, with \$\frac{3}{2}\$ pinky fracture was held at 2s. \$1d\$.

Sarsaparilla.—Grey Jamaica, of which 44 bales offered, was in brisk demand at steady rates, good selling at 1s. \$5d\$., and slightly coarse and dark at 1s. \$3d\$. to 1s. \$4d\$. Native Jamaica, of which 13 bales offered and sold, found buyers at steady rates, from 10d. to 1s. being paid for dull yellowish to good red, and of 14 bales Lima offered, seven sold at 1s. \$1d\$. to 1s. \$2d\$. being unaltered. Two bales Honduras were held for 1s. \$d\$.

Senna.—No Tinnevelly leaf offered; of 21 bales of good pale Alexandrian pods 5 bales partly sold at \$\frac{4}{2}d\$. per lb. for dark; good pale were held for 8d\$. to \$9d\$.

Alexandrian pods 5 bales partly sold at $4\frac{1}{2}d$. per lb. for dark; good pale were held for 8d. to 9d.

TAMARINDS.—Five barrels dry Montserrat were held for 11s.

in bond.

TONKA BEANS .- A single case of fair partly foxy Para sold

TONKA BEANS.—A single case of fair party loxy Para solutal 1s. per lb.

Wax, Bees'.—In demand. A string of 124 bales Zanzibar found ready buyers at from 6l. 13s. 9d. to 6l. 15s. per cwt. for fair even brown block, being about 2s. 6d. firmer, and 51 bags of Egyptian sold at 6l. 10s. to 6l. 12s. 6d. for fair, part darkish block; 60 bags of Mombasa sold at from 6l. 10s. subject to 6l. 12s. 6d. for fair, part dark. Two barrels Jamaica, all that offered, realised 7l. 10s. for ordinary brown.

From Bergen under date of January 25 we learn that the From Bergen under date of January 25 we learn that the prospects for the new fishing continue to be very promising, in consequence of which a weaker feeling has become apparent, and buyers are holding off. The few lots of crude oil which have arrived on the market are of satisfactory quality, while the sales that have taken place correspond to 58s. per barrel c.i.f. and have the character of trial orders only. The exports from Bergen amount to 917 barrels, against 490 barrels at the corresponding date of last year. At the London spice auctions on Wednesday 304 bales of Mombasa chillies were sold at from 37s. 6d. to 38s. for fair, slightly mixed, being dearer; and of pepper 151 bags Singapore were bought in at 33d. for fair, and 36 bags of ordinary pinheads and siftings sold at \(\frac{7}{2}d. \); privately January-March shipment is mixed, being dearer; and of pepper 151 bags Singapore were bought in at 33d. for fair, and 36 bags of ordinary pinheads and siftings sold at \(\frac{1}{2}d. \) ; privately January-March shipment is quoted \(3\frac{1}{2}d. \) c.i.f. \(d/w; \) fine \(white \) Singapore pepper at auction was bought in at \(8\frac{1}{2}d. \) and a few bags fair sold at \(5d. \); privately the market is steady with sales of January-March shipment at \(5d. \) landed terms and at \(4\frac{1}{3}d. \) c.i.f. \(d/w. \) Fair pimento was bought in at \(2d. \) in auction, and privately sellers quote 18s. \(6d. \) for January-February shipment. At auction six cases Penang cloves were bought in at \(1s. \), and privately \(Zanzilor \) are quiet on the spot, with small sales of fair at \(5\frac{1}{3}d. \) per lb.; January-March and February-April shipment has been sold at \(4\frac{1}{3}d. \) c.i.f.; March-May delivery is quoted \(5\frac{1}{3}d. \) and June-August \(5\frac{1}{3}d. \) The large quantity of \(1,039 \) cases shellac was brought to auction on Tuesday, and about \(920 \) cases sold, chiefly without reserve, at generally lower prices; second orange was on average \(2s. \) lower for standard, and fine orange was \(5s. \) to \(7s. \) 6d. lower. Some of the prices paid were as follows: Fine orange \(R. L.S. \), \(109s. \) to \(107s. \); reddish \(G \) double triangle marted, \(94s. \) to \(95s. \); fine \(91s. \) pale flat second orange, \(92s. \) to \(93s. \); fine matted \(SAS, \) 87s. to \(89s. \); good palish second orange, 73s. to 74s.; fair TN, 72s. to 73s.; fair matted, 67s. to 70s.; ordinary red worked TN, 67s. to 71s.; common dark, slightly matted, 65s.; flat livery weak, 63s. to 64s.; and hard block, 64s.; 103 cases AC Garnet sold without reserve at 77s. to 78s. for good free, 74s. for fair, 71s. for cakey, 70s. for hard cakey, and 69s. for block; of 141 cases Button 109 sold without reserve at 84s., blocky pale ditto at 77s. to 81s., fair No. 2 61s. to 62s., good No. 3 61s., resinous weak 54s. to 59s., pale ditto 64s., and low dark No. 4, 30s. to 31s. Since the auctions the spot price is firmer on the basis of 74s. to 75s. for fair free TN orange, and for arrival business has been done in TN at 72s. c.if. for February-March shipment. Futures have been dull and inactive, with sales of May at 76s. to 77s., March being quoted 75s. Turpentine has been quiet, closing at 30s. 9d. for American on the spot, and Cochin coconut oil is firm at 34s. spot, but Ceylon is easier at 30s. 3d. spot. Balsam Canada on the spot is quoted 3s. 1d. net in cases, and for cascara sagrada in ton lots on the spot 39s. per cwt. net (no tare) is quoted, and for lots of 10 tons for January-March shipment per steamer from Pacific Coast 37s. 6d. c.i.f. is asked. English refined spermaceti is offered at from 1s. 2½d. to 1s. 3d. per lb. spot, and the spot price for senega is 1s. 10½d. or 1s. 9½d. c.i.f. for prompt shipment from U.S.A. At the Batavian auction of quinine on January 27, 4,141 kilos. offered, and 3,949 kilos. sold at 10.70fl. per kilo. (=3.10c. Amsterdam unit), against the same price at the previous auction.

A report from Sicily states that the stocks of citrate of lime are not entirely destroyed, but do not exceed (even if their existence be regarded as certain) 2,000 pipes—a relatively small quantity. The present crop is regarded as a good average-one, and the Camera Agrumaria has seen its position gradually improve, and has already succeeded in placing a certain quantity of citrate at good prices.

Personal.

Mr. George Lunan, Ph.C., F.C.S., Edinburgh, is much better this week, and his medical attendants hope that he will soon be convalescent.

Mr. William Burton Shaw, chemist, has removed his business from 12 St. Nicholas Street, Scarborough, to 29E St. Nicholas Street, opposite.

Mr. E. R. Cross, chemist, an active member of the Scar-borough Philosophical and Archæological Society, has just resigned the office of Hon. Treasurer, and been elected a member of the Council of the Society.

MR. James R. Sutherland, formerly of Lybster, Wick, and Inman's, Earl Grey Street, Edinburgh, has sailed by the Belgian from Liverpool to take up a position in the English Pharmacy, Port of Spain. His Edinburgh friends gave him some useful presents before he left, and a hearty "send-off."

MR. G. PRENTISS SHEPHERD, who was formerly in business at Guildford, Surrey, as a chemist, has defrayed the cost of a new porch at the parish church, Kingswear, where he now resides, as a memorial to his late wife and a thank-offering for many happy years spent in the village. Some years ago Mr. Shepherd gave 10,000% to the County Hospital Committee to erect a convalescent home.

Mittee to erect a convalescent home.

A Send-off.—On January 26 Mr. Edward Ryan, Manor Street, Waterford, who for several years past has been managing the pharmaceutical establishment of Mr. Henry Bell, The Quay, was entertained to a dinner and presented with a purse of gold by his friends on the occasion of his departure for London, where he has secured an important position. Many speeches were made during the evening, and the many good qualities of Mr. Ryan were extolled by the speakers.

Death.

WOODROFFE.—At Sydney Parade, Merrion, on January 23, Mr. Latham J. Woodroffe, M.A., examiner in English and classics to the Pharmaceutical Society of Iroland, son of the late Ven. Archdeacon Woodroffe. The deceased gentleman had a distinguished college career, and was one of the most brilliant alumni of the University of Dublin. The funeral at Mount Jerome Cemetery on January 26 was largely attended, the Pharmaceutical Society being represented by Mr. W. F. Wells and Dr. Barnes, M.P.S.I.

Contracts.

The Wand Manufacturing Co., Leieester, have again obtained the contract for the supply of pills, tablets, drugs, etc., to the Leieester Infirmary.

The tender of Messrs, Vince & Co., Cheapside, Lancaster, has been accepted for drugs, etc., for the Luneside Sanatorium, Lancaster, and that of Messrs, W. Massey for oils and

ONE SECTION of the chemical-manure works of Messrs. W. & H. M. Goulding, Ltd., North Wall, Dublin, was burnt down on January 24. The damage is estimated at 5,000%.

Coming Events.

Notices for insertion under this heading should be received by the Editor on Wednesday of each week.

Monday, February 1.

Society of Chemical Industry, London Section, Burlington House, Piccadilly, W., at 8 p.m. Colonel Sir Frederick Nathan on "The Manufacture of Nitro-cellulose."

Tuesday, February 2. Bradford Chemists' Association, Royal Hotel, Darley Street. Conversazione.

Leicester Chemists' Association, Turkey Café, Granby Street, at 8.45 p.m. Mr. O. T. Elliott, F.R.M.S., lantern-lecture on "Flies and the Spreading of Diseases."

Wednesday, February 3.

Pharmaceutical Society of Great Britain, 17 Bloomsbury Square, London, E.C., at 11 A.M. Council-meeting.

Pharmaceutical Society of Ireland, 67 Lower Mount Street, Dublin, at 3 P.M. Council-meeting.

Thursday, February 4.

Thursday, February 4.

Chemists' Assistants' Association, 73 Newman Street, Oxford Street, London, W., at 9 P.M. Mr. W. Hunter Richards, M.B., F.R.C.S., on "Has Man Evolved?"

Great Yarmouth Pharmaccutical Association, 156 King Street, at 8 P.M. Monthly meeting.

Chemical Society, Burlington House, London, W., at 8.30 P.M. The following are among the papers that will be read: "The Triazo Group," Part VIII.: "Interaction of benzhydroximic chloride and sodium azide," by Dr. M. O. Forster. Part VIII.: "Azoimides of the Monobasic Aliphatic Acids," by Dr. M. O. Forster and Mr. R. Müller. "Nitro- Derivatives of Ortho-xylene," by Professor A. W. Crossley and Miss, Nora Renouf. "The Constituents of the Bark of Prunus serotina: Isolation of I-mandelonitrile glucoside," by Dr. F. B. Power and Mr. C. W. Moore.

Mr. C. W. Moore.

Carlisle Chemists' Association, Viaduct Hotel, at 8.30 p.m.

Annual meeting.

Friday, February 5.

Blackpool and Fylde Chemists' Association, Palatine Hotel,
Blackpool, at 8.45 p.m. Discussion on "The System of
Exchange."

Northampton Polyscehnic Institute, St. John Street, Clerkenwell, London, E.C., at 8 p.m. Prize-distribution and opening of additional buildings.

Saturday, February 6.

Northampton Polytechnic Institute, St. John Street, Clerken-well, London, E.C. Students' conversazione.

well, London, E.C. Students' conversazione.

The annual dinner of the Oldham Pharmaceutical Association will be held on February 16 at the Oriental Restaurant. Mr. J. R. Young will be present. Tickets from Mr. T. Baker, Hon. Secretary, 37 Yorkshire Street.

The annual whist-drive in connection with the Plymouth, Devonport, and Stonehouse Chemists' Association will be held in the Palm Court, Royal Hotel, Plymouth, on February 10. Tickets (3s. each) from Mr. F. Maitland, Hon. Secretary, 31 Chapel Street, Stonehouse.

The annual dinner of the Leicester Chemists' Association will take place at the Grand Hotel on February 25. Tickets can be obtained from the Hon. Secretarics, Mr. G. E. Marfitt. Infirmary Square, and Mr. C. J. Avery, Longhborough Road. The annual dinner of the Peterborough Chemists' Association is fixed for February 18. It is expected that Mr. J. R. Young will be present. Mr. J. W. Hall, 6 Long Causeway, will supply further particulars.

A WHIST-DRIVE in connection with the Manchester Pharmaceutical Association will be held in the Grand Hotel, Aytoun Street, on February 8, at 7.15 p.m. Tickets (gents' 3s., ladies' 2s. 6d.) may be had from the Hon. Secretary, Mr. Jas. Grier, The University.

A CINDERELIA dance in connection with the Chemists' Association will be held in the International Hall of the Café Monico, London, W., on February 11. Tickets (3s. each) can be had from Mr. B. R. Wilkinson, 18 Poynders Road, Clapham Park, S.W.

The annual dinner of the Stockport Chemists' Association will be held at the County Restaurant, Stockport, on February 11. Mr. J. R. Young will be present. Tickets (4s. each) may be had from the Hon. Secretary, Mr. Arthur D. Watson, 184 Higher Hillgate.

At the evening meeting of the Pharmacentical Society of Great Britain, to be held on February 9, Mr. W. A. H. Naylor will read a paper on "The Determination of Glycerin," and Mr. II. Finnemore and Mr. E. M. Holmes will give notes on "A.False Bark of Prunus scrotina."

Exchange Column—Bargains.

One halfpenny per word with name and address. One penny per word if we register the address and attach a number.

No Advertisement inserted for less than 6d.

APPARATUS.

FOR sale, 1-gal, water still and worm; nearly new; £1 (packed). Wanted, shop-rounds, 8, 20, 40 oz. 149/25, Office of this Paper.

DENTAL.

DENTAL chair, branch practice, upholstered in maroon plush; in good condition; price £2. EDWARDS, 30 Finsbury Pavement, London, E.C.

**COLUMBIA pattern oil-pump chair, upholstered in saddlebags; almost new; price £18. Edwards, 30 Finsbury Pavement, E.C.

DRUGS AND CHEMICALS.

WHAT offers? -5 1-oz. original bottles beroin hydrochlor. (Bayer's). 146/8, Office of this Paper.

WANTED offer for 2 10-lb. coppers ess. limonis sup. nov.; guaranteed B.P. Walker, 9 Canonbury Square, London, N.

FORMULÆ.

RECIPE for sale; sauces, 4d. gall. France, 42 Vartry Road, London, N.

EMBROCATION; 10d. per gal.; thick, creamy, and unscparable; send 2s. 6d. for formula. EVERITT, 131 Forest Road, Loughton,

FORMULÆ for Sale; boot polishes, inks, and dressings; original, not book formulæ. W. Hamilton, 97 Clarence Avenue, North-

UNIQUE shampoo-powder; nothing equal or like it on the market; cost under 3d. per doz.; no trouble to make; 1s. LLOYD, 18 King Street, Margate.

PROPRIETARY ARTICLES.

8 DOZ. Vitaloids; eash offer or exchange for patents, spectacles. RONCHETTI, Thornaby-on-Tees.

WHAT offers for 9 doz. Dr. Hale's wine; 3 doz. $10\frac{1}{2}d.$, $\frac{1}{2}$ doz. 1s. 6d.

Chemists' cmulsion? Bellame, Chemist, Barnsley.

OFFERS wanted for case 25 quarts Franz Josef (anopened); 2 doz.

Hebden's anti-beer, 3d., clean; carriage forward. Monte, Chemist, Soho Road, Handsworth, Birmingham.

43 DOZ. Fay's Velontine, Poudre-de-Riz, 3 doz. single felt chest-protectors (Nos. 1 and 2), 5-10/12 doz. Grimault's Sirap d'Hypo-live de la company. phosphites de Fer; will take any price to immediate pur-chaser. 191/13, Office of this Paper.

SHARES.

SHARES for Sale. See p. 240.

SHOP FITTINGS.

TWO very handsome window specie jars on stands (fig. I., Māw's), excellent condition; small nest 25 drawers; 3 8-gall. pearshaped earboys. Offers to LLOYD, 26 Birch Street North, Wolverhampton.

MISCELLANEOUS.

SYPHON gas-stove; cost £7; price 27s. 6d. Spence, Pavement, Ilkeston.

SALTER typewriter duplicator, nearly new; 25%, or exchange for clean, saleable patents. 143/35, Office of this Paper.

BARGAIN.-20 gross 3 drm., 10 gross 2 oz. French R.S. vials, 2s. 6d. and 4s. crates, carriage free. Jackson, 21 Burton Road. Ashby, Leieester.

10 LBS, dry malt extract, one gross homeopathics (assorted), pessary mould for 12, 12 1-oz. bots, Schering's pyro, 14 lbs. antim. nig., 2 oz. caffeine, 14 lbs. rad. zingib. cochin. contus, 80 gross Richardson's Blaud pills, 24 lbs. ext. Bellad. vir.; all in good condition :

what offers? Huguss, 53 Penn Road Villas, Holloway.

6 LB, ol. succini rect., 10d. lb.; 3 lb. ess. limonis super. 8s. lb.; 3 2-oz. orig. btls. cocaine hydrochl. (Howards'), 10s. oz.; 3 16-oz. ditto liq. ext. cinchen. (Howards'), 3s. lb.; 2 1-pint and 2 2-pint orig. btls. Wright liq. carb. deterg., 2s. 2d. and 4s. 2d. btl.; 1 doz. Gishurst compound, 6s.; 41-oz. orig. btls. Helmitol, 1s. 6d. oz.; 3 1-oz. ditto ichthyol ammon., 10d. oz.; ½ lb. iodoform XL, 12s. lb.; copying press and stand, half cost, 20s.; 70 shop-rounds. poor condition, 3s. doz. Stevens, 97 Boro' High Street, S.E.

WANTED.

OPTICAL trial-ease; good condition; cheap. 147/31, Office of this

COMPLETE shop fixtures, fittings, etc.; good condition. 45 Whiteacre Road, Ashton-under-Lyne.

NATIONAL cash-register. Particulars and price, Maunder. Cash Chemist, Teignmouth.

PATENTS .- Clean, quick sellers; good prices given. King, 6 St. Paul's Road, Blackpool.

BOOK on vinegar-making, and 4-volt accumulator for spark coil.

147/7, Office of this Paper. LOWSON'S "Botany," Greenish's "Materia Medica"; cheap. FREEMAN, 6 Nugent Terrace, N.W.

PERSONAL weighing-machine; sign-writer; perfect condition. "Снемыт," 2 Guildford Road, Woking.

WALL show-case; about 9 ft. by 8 ft. or 9 ft. high. Lowest cash price to Spence & Co., The Pavement, Ilkeston.

A CHEAP dental chair and engine for branch practice. Write, "REGISTERED," 191 Malmesbury Road, Bow, E. MINOR, Major, Chemists' books .- Send prepaid for valuation; each

offers per return. Gower, Bookseller, Waterloo, Liverpool. "CHEMIST AND DRUGGIST." Jan. 2nd and 16th, 1909. Fall price

offered for clean copies sent flat to "S. B.," Office of this Paper. GARDNER'S sifter and mixer, 60 lbs. capacity, power size, with pulleys; also tineture press wanted. Collins, Crown Works,

SOUTHALL'S "Materia Medica"; B.P.; Bloxam's "Chemistry, Organic and Inorganic." McCLUMPHA, 372 Westgate Road, Newcastle-upon-Tyne. OPTICAL trial case. "F.S.M.C.," 247 Lower Clapton Road, N.E.

ODD diatoric teeth, molars and bienspids; new. Price to "E. W.," 102 London Road, Carlisle.

ADDRESSES WANTED.

HUDSON, WILLIAM, Chemist, Eastry, Bover, Kent, 1874; son inquires. 150/17, Office of this Paper.

College Notes.

London College of Pharmacy.—The following awards were made at the College examination, held at the end of last year: A silver and bronze medal were awarded in each subject, the first-named taking the premier award: Chemistry, C. B. Harrison, H. S. Welton, W. R. Morgan; botany, L. F. Saunders, A. Thomson; materia medica, C. B. Harrison, D. A. Evans, Certificates of merit in the various subjects were awarded to Messrs, D. A. Evans, W. Ashworth, W. R. Morgan, A. Thomson, C. Grier, W. J. Gregson, R. Wood, L. F. Saunders, K. R. Gladden, D. J. Jones, C. E. Young.

Where to Study.

The following educational institutions are advertising in this issue:

Muter's (South London) School of Pharmacy, 325 Kennington Road, London, S.E.
Westminster College of Pharmacy, 402 Clapham Road, London, S.W.
London College of Chemistry and Pharmacy, 323 Clapham Road, London, S.W.
South of England School of Pharmacy, 186 Clapham Road, London, S.W.
Leeds College of Pharmacy, Clarendon Street, Leeds.

Leeds College of Pharmacy, Clarendon Street, Leeds. Liverpool College of Pharmacy, 18 Colquitt Street, Liver-

North of England School of Pharmacy, 55 Northumberland Street, Newcastle-on-Tyne. Birmingham and Midland College of Pharmacy, 45 New-

hall Street, Birmingham. Bath and West of England School of Pharmacy, Cleveland

Place, Bath. Glasgow School of Pharmacy, 180 West Regent Street, Glasgow.

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SEASONABLE COUNTER SPECIALITY.

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IMPORTANT NEWS FOR THE TRADE

WHOLESALE & RETAIL.

KOKO FOR HAIR

Withdrawal of the 'Trial' Bottle.

On February 1st, 1909, the 1/9 Trial size of Koko will be withdrawn from the Trade, and our advertised prices from that date will be 1/, 2/6, and 4/6 per bottle (see full detailed PRICE LIST overleaf).

From the date of the publication of this notice, no orders will be accepted by us for the 1/- and 1/9 sizes at present on the market, but any stocks of these sizes which Retailers may hold will be quite suitable for sale, therefore we cannot undertake to exchange any goods returned on account of this change of sizes.

Our present advertising campaign will be augmented with the change, and should result in increased demands. Prices have been arranged so as to allow retailers such profits as will ensure their pushing our articles, and all selling prices are fixed P.A.T.A. Our friends are invited to report to us (in confidence), cases of cutting in their district.

Our Advertising Literature and Show Materials are well got up and we shall be pleased to send Counter Bills, Showcards, small and giant Dummies, etc., to any of our friends on receipt of a Post Card.

KOKO is still the favourite Hair Dressing and Tonic with the Public, and we have always aimed at securing a liberal profit to our retail friends, so preventing substitution of our proprietaries.

See full Price List on next page.



One of the subjects of a "KOKO" Showcard.
All our illustrations are "life studies" and cause much attention and comment

Koko-Maricopas Co., Limited
16, BEVIS MARKS, LONDON, E.C.

KOKO-MARICOPAS Co., Ltd.

16, Bevis Marks, LONDON, E.C.

Telephone 595 Avenue.

Telegraphic Address:

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A.B.C. Code, 5th Edition.

WHOLESALE PRICE LIST.

FEBRUARY 1st, 1909.

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| NAMES OF PREPARATIONS. | SIZE. | Minimum Retail. | DOZENS. | £10 Orders | £50 Orders. |
| Koko for the Hair | 1/- | 11d. | 9/6 | 9/2 | 8/9 |
| " " " " " " " " " " " " " " " " " " " | 2/6 | 2/1 | 21/- | 20/- | 19/- |
|), ,, ,, | 4/6 | 3/9 | 39/- | 37 /6 | 35/6 |
| V 1 C 41 II : | 1/- | | 9/6 | 8/9 | |
| Noko for the Hair | 2/6 | | 21/- | 19/- | |
| ,, ,, ,, <u>X</u> O | 4/6 | | 39/- | 35/6 | · |
| Pino Paste | 1/- | 1/- | 10/- | 9/3 | 9/- |
| ,, | 1/9 | 1/9 | 17/6 | 16/6 | 16/- |
| Koko Toilet Soap - | 1/- | 1/- | 9/- | 8/3 | 8/- |
| Koko Shampoo Soap - Tablets in Box. | 1/- | 1/- | 9/- | 8/3 | 8/- |
| Koko Shampoo Powder - | 1/- | 1/- | 9/6 | 9/2 | 8/9 |
| American Shampoo Liquid | 1/- | 1/- | 9/6 | 9/2 | 8/9 |
| Dark Swan Hair Colour - | 1/- | 1/- | 9/6 | 9/2 | 8/9 |
| 99 | 2/6 | 2/6 | 21/- | 20/- | 19/- |
| ,, ,, - | 5/- | 5/- | 42/- | 40/- | 38/- |

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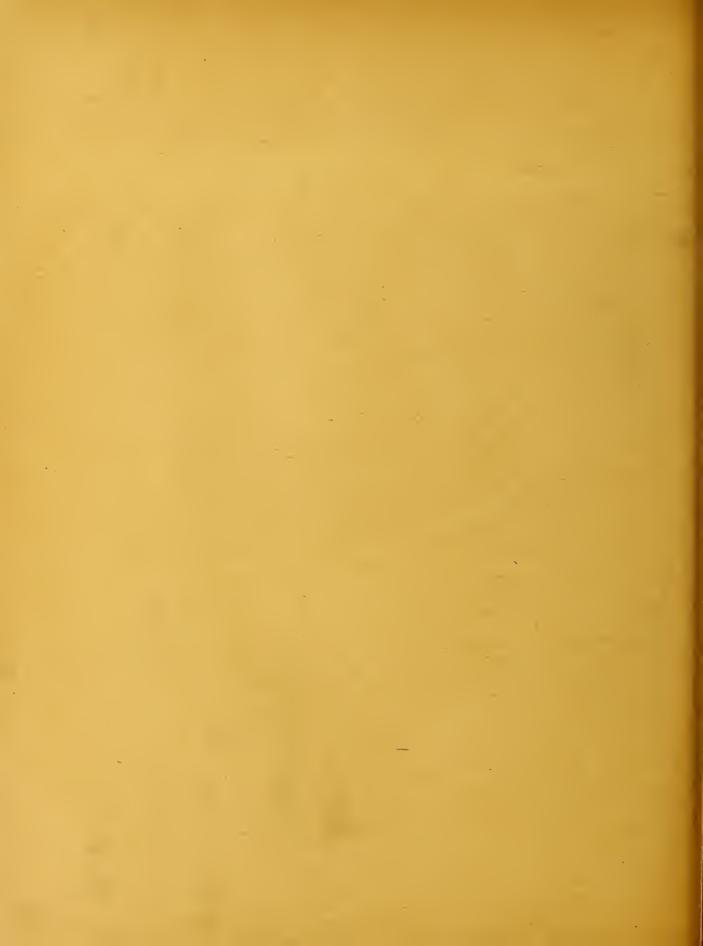
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This Illustration Represents:—

DISPENSING SCREEN AND
COUNTER 6-ft. long × 6-ft. high (about).

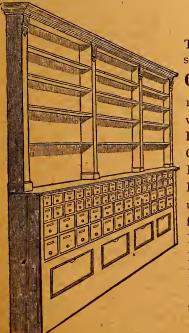
Description of Counter:—
Mahogany Top Counter with O.G. Nosing,
Two Mahogany and PLATE GLASS
Show Cases in Front, fitted with shelves, with
PLATE GLASS projecting Sponge Case
in centre, attractively Lettered TURKEY
SPONGE.

Description of Screen:—
Mahogany with PLATE GLASS Bevelled
Mirror in centre, with PLATE GLASS
Show Case each side, fitted inside with
PLATE GLASS Mirror back, and Moveable Plate Glass Shelves, usual Shelves at back of Screen.

Price £15.



This Illustration Represents:—Mahogany and **PLATE GLASS COUNTER CASE** 6-ft. long × 18-in. wide, **PLATE GLASS** Ends, **PLATE GLASS** Mirror Flaps at back with Spring Catches, Mahogany Display Shelf with serving place in centre, fitted inside with Velveteen Lined Trays.—Price £6.



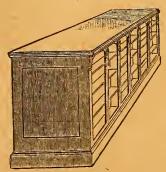
No. 2.

This Illustration Represents:—

CHEMISTS' FITTING,

12-ft. long × 9-ft. high, with 60 Solid Mahogany
Fronted Drawers with
Cut Glass Nobs and
Bevelled Edge Glass
Labels with Lockers
under same, Mahogany
faced cover Board over
Drawers, Mabogany
Faced Shelves with
Mahogany Pilasters and
Mahogany Cornice over
top.

Price £15.



No. 4.

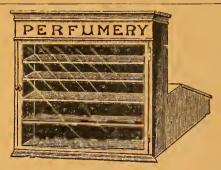
This Illustration Represents:-

CHEMISTS' COUNTER 12 ft. long × -2-ft. wide × 3-ft. high, Solid Mahogany Top with O.G. Nosing, Mahogany and PLATE GLASS Show Case in Front, fitted with Moveable Shelves.

Price £10.

RUDDUCK & COMPANY,

Complete Shop & Office Fitters, Shop Front Builders, &c., 262, OLD STREET, LONDON, E.C.



No. 8.

This Illustration Represents: -

Perfume Case and Desk, 24-in. wide × 2-ft. 6-in. high, Mahogany and **PLATE GLASS** Case, Lock and Key, Moveable Plate Glass Shelves, and Plate Glass Mirror back, attractively lettered **PERFUMERY**, Mahogany Desk with lift up Flap Lock and Key, Stamp Drawer, &c., inside.

Price £3 17s. 6d.

No. 11.

This Illustration Represents:—

UPRIGHT **SHOW-CASE** (to stand on floor) AIR-TIGHT. made in Mahog. any Oak, or other hard wood, well French Polished. Glazed PLATE **GLASS** through out, with door to open. Fitted inside with 3 Moveable Plate Glass Shelves (with polished edges), Adjustable on Brackets Size 6-ft. high × 2-ft. wide × 2-ft. back to front.

Price £10 10s.



No. 10.

This Illustration Represents:-

UPRIGHT SHOW CASE (to stand on counter) AIR TIGHT, made in Mahogany, Oak, or other hardwood, well French Polished, Glazed PLATE GLASS throughout with door to open at back. Fitted inside with 2 Moveable Plate Glass Shelves (with polished edges), on Adjustable Brackets Size, 33-in. high × 24-in. wide × 22 in. back to front.

Price £6 10s.

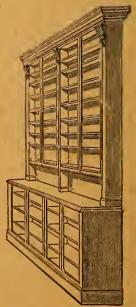
No. 3.

This Illustration Represents:—

CHEMISTS' WALL CASE. 8-ft. long × 9-ft. high, upper part from 6-in. to 7-in. deep, lower part from 13-in. to 15-in. deep, fitted with Moveable Shelves, Mahogany Sashes, Recess Top, Pilasters, and Cornice.

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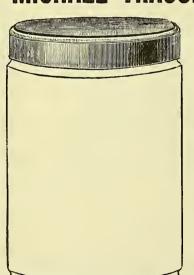
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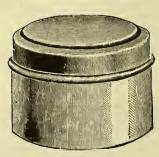


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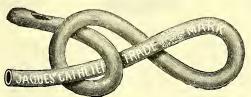
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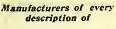






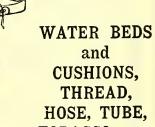






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| No. 1501 | | 4 | | 2 | | | d. 6 | s. 4 | | 8. | | s. d. | | d. | | d. |
| | ••• | - | _ | 4 | | | | | | 15 | | 9 6 | | 0 | | 6 |
| 1502 | ••• | 7 | = | | | | 6 | 6 | | 18 | | 11 0 | | 0 | 15 | 0 |
| 1503 | ••• | 6 | 0 | 3 | 6 | 1 9 | 0 | 5 | ь | 18 | 6 | 11 0 | 24 | 0 | 15 | 0 |
| | The | No. | 1501. | cover | ed in | Rolled | Gold is | the he | et colli | no line | Cmanin | 1 tundo | price per | a | 04- | |
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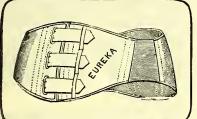
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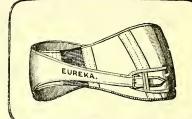
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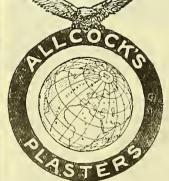
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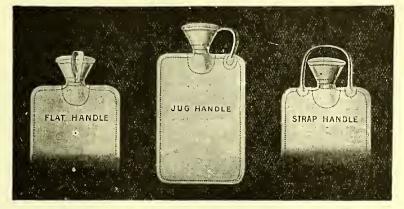
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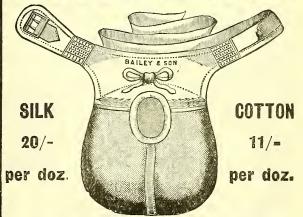
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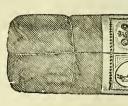
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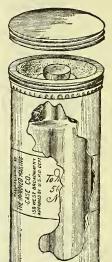
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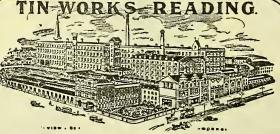
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More economical and hygienic than others. Nearly the whole of the juice in raw meat—about 50 %—can be obtained cold, i.e., about double the quantity obtainable by any other press. Only half the quantity of meat, therefore, being necessary, the saving is very considerable. No pressing cloth being used and all parts in contact with the meat being of pure tin or nickel-plated, these Presses are unsurpassed from a hygienic point of view. To be obtained from all Chemists. (Wholesale: S. Maw, Son & Sons, Aldersgate St.; Allen & Hanburys, Ltd., & Wigmore St., W.; R. J. Reuter, 5-7 Denman St., London, W.; Barclay & Sons, Ltd., sparringdon St.; and Arnold & Sons, W. Smithfield, London, E.C. J. Also from Messrs. J. Barker & Co., Ltd., Kensington; Benetnink & Co., Ltd., Cheapside; Farrow & Jackson, 8 Hay, market; Harrod's, Ltd., Brompton; G. Kent, 195-20x, High Holbern; J. Shoolber & Co. Tottenham Court Road; Wm. Whiteley, Ltd. Westbourne Grove; Army & Navy, and Civil Service Stores; Spiers & Pond, &c.

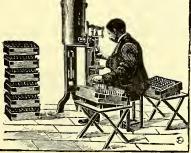
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to suit every need.

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The Hand Machine closes 400 glasses per hour. With a Power Machine 1,600 can be closed per hour.

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COMPRESSED TABLETS

= Manufactured by ==

THOMPSON & CAPPER, 51 Piccadilly, Manchester

Thompson & Capper are now compressing Tablets on a large scale, and are prepared to supply them either in bulk or packed with Chemist's own name on each bottle.

The following are a few examples from their new list:—

| | | | Per doz. Botts. containing | | | 'Price | Price |
|--------------------------------|-----|---------------|----------------------------|------|------|---------|-----------|
| | | Grs. | 25 | 50 | 100 | per lb. | per 1,000 |
| Aloin Co. (Anti-Constip.) | | | 1/9 | 3/3 | 5/- | - | 3/3 |
| Ammon. Chloride | | 5 | 1/9 | 3/3 | 5/- | 2 - | 1/6 |
| Aspirin | | 5 | 6/6 | 12/6 | 22/- | 18/- | 16/6 |
| Calomel | | $\frac{1}{2}$ | 1/9 | 3/3 | 5/- | 8 6 | 1/3 |
| Cascara Sagrada (Sugar Coated) |) | 2 | 1/6 | 2/9 | 3/6 | 3/2 | 2/6 |
| Ginger Mint | | | 1/4 | 2/6 | 4/- | 2/- | 1/6 |
| Gregory Powder | | 5 | 2/- | 3/6 | 5/6 | 3 6 | 3/- |
| Grey Powder | | 1 | 1/6 | 2/9 | 5/- | 4/6 | 1/10 |
| Phenacetin | | 5 | 1/9 | 3/- | 5/- | 4/- | 3/6 |
| Rhubarb, Soda and Ginger | .:. | - | 1/8 | 3/3 | 5/- | 3/- | 2/- |
| Soda Bicarb | ••• | 5 | 1/2 | 2/- | 3/9 | 8d. | 5d. |



THOMPSON & CAPPER specially recommend their SODA MINT TABLETS, 9d. per lb. Send a post card for a free sample.

All Tablets in bulk supplied in cardboard cartons (free) or in square glass nickel screw-capped bottles 3d. per 1,000 extra. Packed goods are put up in cartons containing one dozen bottles.

Cheinist's own name and address printed on lots of not less than three dozen bottles. To avoid error in printing, each order should be accompanied by a slip label.

The prices above are for not less than three dozen bottles (assorted or otherwise). 3d. per dozen bottles extra on lots of less than three dozen.

TERMS.

Carriage ... All goods are sent carriage paid to any address in the British Isles.

Payments ... 2½ % may be deducted if cash accompanies order, otherwise all prices are strictly net 30 days. References ... Satisfactory references required on opening new accounts, or cash against pro forma invoice.

Owing to the number of enquiries received for wholesale prices of "QUINPHOS" Regd., The Great Tonic, Thompson & Capper, the Sole Makers, herewith append the wholesale price list.

WHOLESALE PRICES of "QUINPHOS," Regd., The Great Tonic.

| | | | | | | | m Retail Price. |
|------------------|------|----------------|-------------------|---------|-----------|------------|-----------------|
| $1/1\frac{1}{2}$ | size | "QUINPHOS" | (liquid or tablet | s) 9/6 | per doz. | | 1 - |
| 29 | | 11 | *** | 23/6 | 11 | • • • | 2/6 |
| 46 | 2.1 | 11 | 11 | 41/- | 1.2 | • • • | 4/3 |
| 8/6 | ,, | ,, | 11 | 75 - | 3.9 | ••• | 8, - |
| | | Less 5 per cer | nt. on all orders | of Half | Gross and | l upwards. | |

THOMPSON & CAPPER,

51 Piccadilly, MANCHESTER.

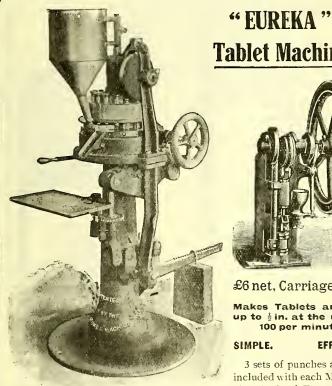
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Delivers over 500 tablets a minute. Absolutely noiseless when working. Entire absence of dust or scattered powder.

Friction clutch with two speeds. Patented safety weight which automatically releases undue pressure.

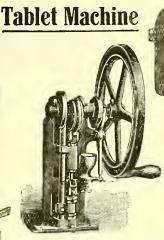
No cams, levers or springs to rattle and

Life of punches and machine much longer than any other tablet machine.

Simplicity of adjustments, which are altered while machine is running.

One firm alone has bought over 50 of these machines, and they are in continuous

4-h.p. is more than enough to run it.



£6 net, Carriage Paid.

Makes Tablets any size up to ½ in. at the rate of 100 per minute.

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3 sets of punches and dies included with each Machine. also Book of Formulæ and full instructions how to prepare tablets.

Send P.C. for further particulars and Samples of Tablets.

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AUTOMATIC WATER STILL. THE DISTINCTIVE FEATURE of this

Still is its novel construction, by which the steam generated in the Still is conducted down through the condenser, raising the temperature of the feed water to such a point that the ammonia gas is released and driven off. A further advantage of this preliminary boiling is that very little additional heat is required to vaporise it. It will thus be seen that this Still does two important things :- Purifies the water more completely than any other Still, and effects a very marked saving in steam. The steam and water systems are entirely distinct, and no oil from the steam can get into the distilled water. All exposed iron surfaces are tinned to prevent corrosion.

ECONOMY .- Where low pressure steam is used, the cost of distilled water is practically nothing. If live steam from the boiler is applied, the net cost per gallon is about one-tenth of a penny.

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WILL SUCCESSFULLY TREAT

EVERY KIND of POWDER.

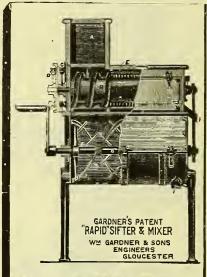
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Soap Powders Starch Powders Blue, Manures Spices, Sugar Self-Raising Flour lcing Sugar Cake Flour Liquorice Powders **Blended Flours** Fancy Flours Confectionery Perfumes Plate Powders Cravy Salt

Dry Colours Sausage Seasonings Snuff, Pepper Table Salts Health Salts Cocoa, Sulphur Coffee, Chicory Blanc-Mange **Powders**

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and Similar Kinds of Powders.

They Contain the Following Important Features:

- 1. Will brack down and sift lumps formed in powders, and are practically dustless and noiseless in working.
- 2. Ingredients can be placed indiscriminately into the hopper without previous mixing.
- 3. Foreign and other matter too large to pass through the sieve is automatically removed from sifting chamber by our patent overtail process, without injury to brush or sieve.
- 4. Brush is fitted in slide bearings, so can be accurately regulated; and being interchangeable, Machines may be fitted with two classes: one to break down lumps to powder and sift, the other to sift only and pass lumps with foreign matter through patent overtail spout; only one of these, bowever, is supplied unless specially ordered and charged extra. The latter has the gentlest possible action, and removes foreign matter, insects, lumps, &c., from flour, powders, &c., without injury to same.
- 5. A door being fitted over mixing chamber, the combined Machine, as illustrated above, can be used as a mixer only, if desired, without sifting, and essences or liquids can be added without injuring or choking brush or sieve.
 - 6. Sieve being instantly removable, any meshes can be used and extra sieves supplied if desired at an extra cost.
- 7. Smallest possible wear and tear, and bearings, being outside, are lubricated with ease and without fear of lubricant coming in contact with the powders, as is the ease with other mixing machines.
- 8. Quickly taken apart for cleaning, most sizes have bottom of mixing chamber binged, so every part can be get at: then when using a Machine for a variety of powders there is no fear of one mixture contaminating that which follows.

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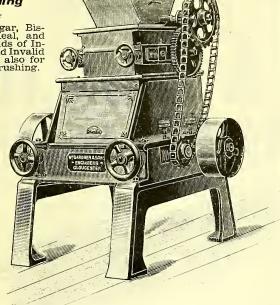
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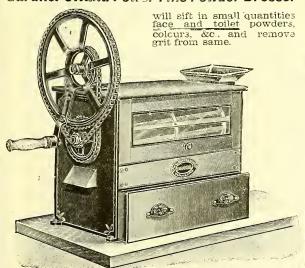
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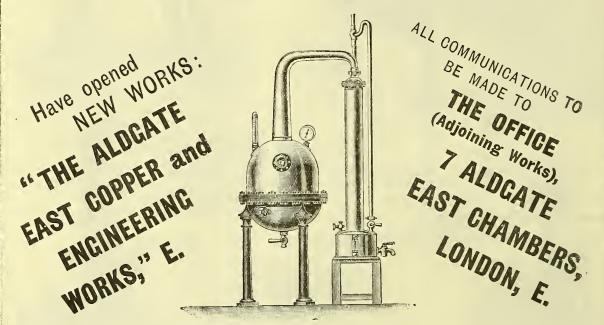
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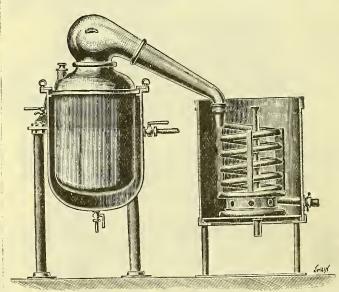
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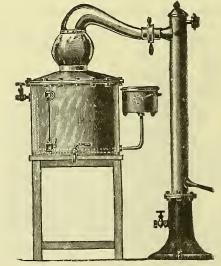
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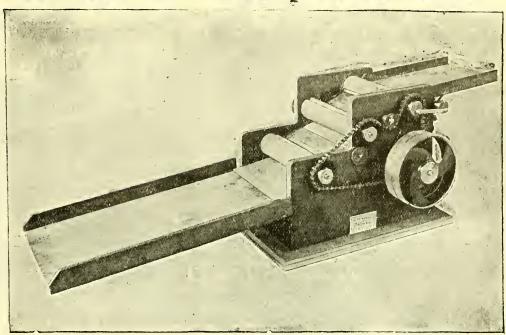


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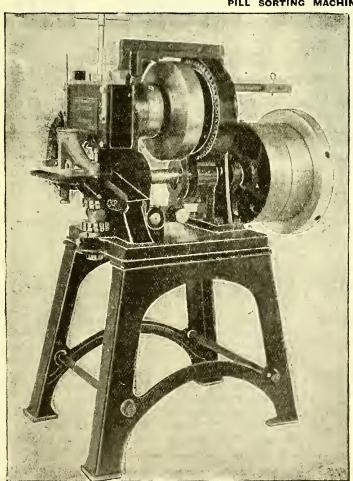


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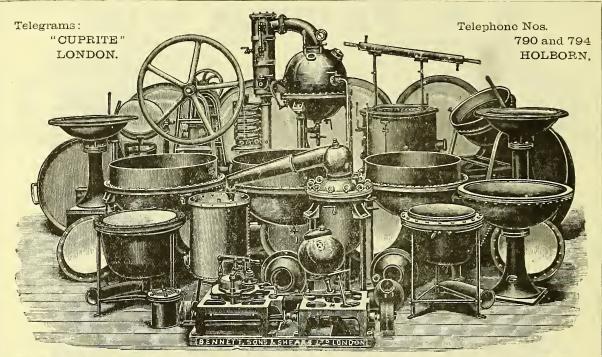
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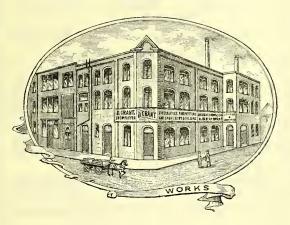
D. GRANT, SHOPFITTER & PATENTEE, ST. JAMES PLACE, EDINBURGH.

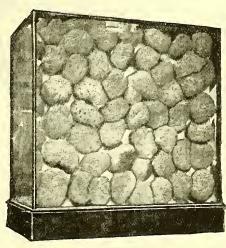
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, ROBERTSON, Inverleith Row.
, ANDERSON, Tollcross.
, ANDERSON, Morningside.

GLASS, Morningside.
GLASS, North Bridge.
BAXTER, Strathearn Road.
GIBB, Marchmont Road.
REID, Elm Row.

", BEATTIE, Bruntsfield Place.
", MASON, Comely Green.
", McCallum, Meadowbank.

COWIE, Dublin Street.
SOMERVILLE, Clerk Street.

, COATES, Leith.
, DUDGEON, Leith.
, CORMACK, CORSTOTPHINE.
, JAMIESON, Roslin.
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, McLaren, Pathhead.
Dr. Kelso, Broxburn.
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, Forrester, Cupar.
,, Forrester, Sinclairtown.
,, Bowman, Cardenden.
,, Ramsay, Cardenden.
,, Bowman, Anstruther.
,, Robertson, Douglas Dumfermline.
,, Robertson, Moodie Dumfermline.
,, Greig, Cowdenbeath.

,, YULE, Cowdenbeath.
, ROBERTSON, St. Andrews.
, HUSBAND, Leven.
, COWIE, Largo.
, FEASER, West Linton.
, KEARNEY, Hawick.
, SCROGGIE, Lauder.
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B. McLean, Kilmalcolm.

Boyd, Kilmarnock

McInnes, West Kilbride.

Harley, Bridgend, Perth.

Harley, High Street, Perth.

Munno, Scone.

Brunton, Perth.

Nicol, Carnoustie.

Petrie, Blairgowrie.

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Hunter, Fraserburgh.

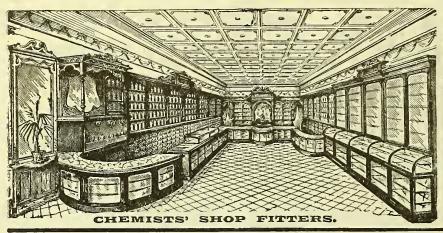
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Fraser, Forres.

, McDonald, Inverness.
, McDonald, Inverness.
Hendry, Inverness.
, McVitie, Maryport.
, H. H. Swann, Paris.
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[2]

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Full particulars, users' opinions, &c., will be sent on application.

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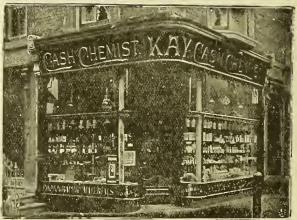


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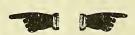
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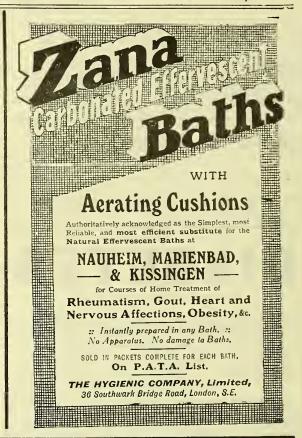
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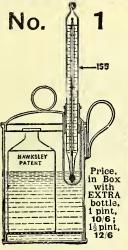
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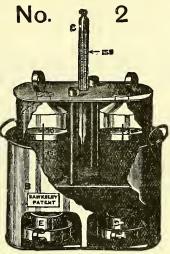
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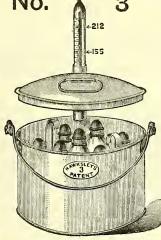
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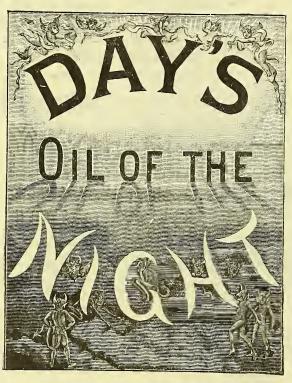
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